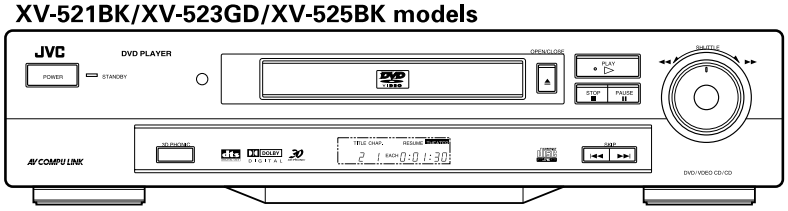
JVC

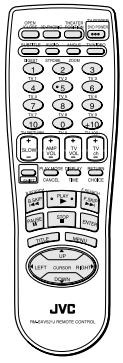
SERVICE MANUAL

DVD PLAYER

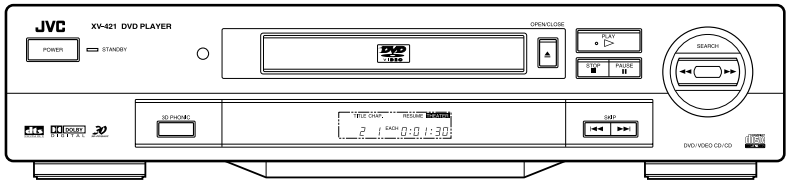
XV-521BK/523GD
XV-525BK/421BK

XV-521BK/XV-523GD/XV-525BK models





XV-421BK model



Area Suffix
XV-421BK
J ---------- U.S.A

Area Suffix
XV-525BK/523GD
J ---------- U.S.A

Area Suffix
XV-521BK
C ---------- Canada

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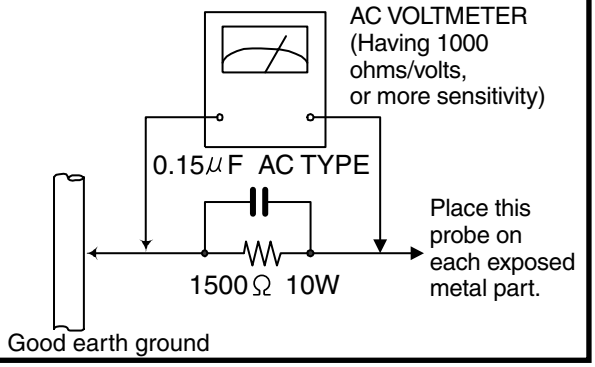
No.20836
Jun. 2000

Safety Precautions

1. This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer`s warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet , particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.)
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to eachexposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. voltage measured Any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).

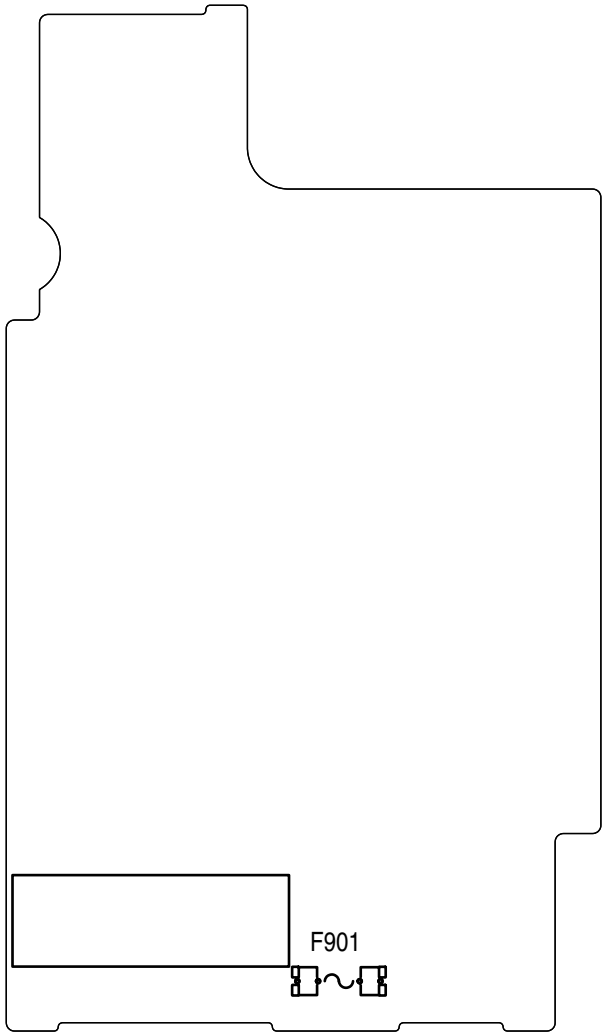


Warning

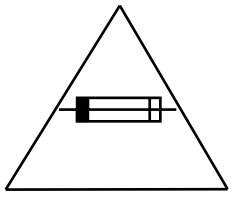
1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

⚠ ***CAUTION*** **Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of preforming repair of this system.**

Importance administering point on the safety



For USA and Canada / pour États - Unis d' Amérique et Canada



Caution: For continued protection against risk of fire, replace only with same type 1.6A/250V for F901. This symbol specifies type of fast operating fuse.

Précaution: Pour eviter risques de feux, remplacez le fusible de sureté de comme le meme type que 1.6A/250V pour F901.
Ce sont des fusibles sûretes qui functionnes rapide.

Dismantling and assembling the traverse unit

1. Notice regarding replacement of optical pickup

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs to the optical pickup or connected devices.

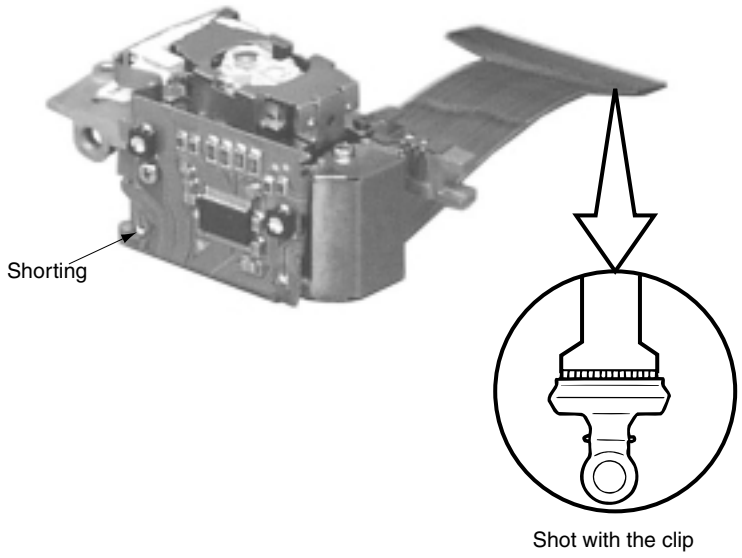
(Refer to the section regarding anti-static measures.)

1. Do not touch the area around the laser diode and actuator.

2. Do not check the laser diode using a tester, as the diode may easily be destroyed.

3. It is recommended that you use a grounded soldering iron when shorting or removing the laser diode.
Recommended soldering iron: HAKKO ESD-compatible product

4. Solder the land on the optical pickup's flexible cable.
- Note : Short the land after shorting the terminal on the flexible cable using a clip, etc., when using an ungrounded soldering iron.
- Note : After shorting the laser diode according to the procedure above, remove the solder according to the text explanation.



Disassembly method

< Main body>

■Removing the top cover (See Fig.1)

1. Remove the four screws A on both side of the body.
2. Remove the two screws B on the back of the body.
3. Lift up the rear part of the top cover while pulling the lower part of the sides, then detach upward.

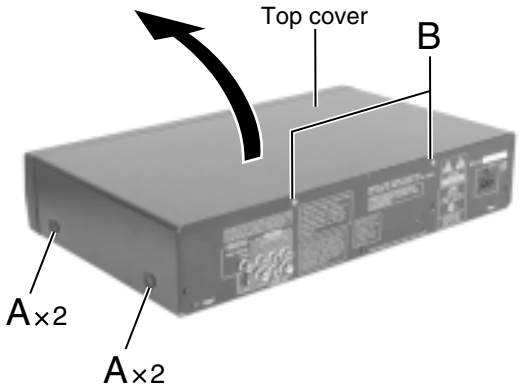


Fig.1

■Removing the rear panel (See Fig.2)

・Prior to performing the following procedure, remove the top cover.

1. Remove the seven screws C on the back of the body.

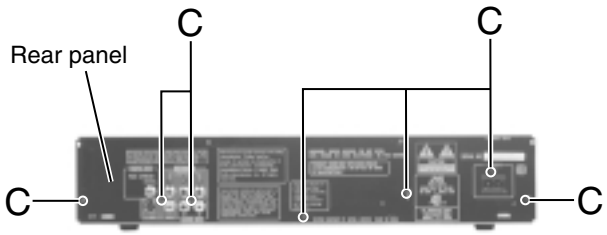


Fig.2

■ Removing the fitting (See Fig.3 to 6)

・ Prior to performing the following procedure, remove the top cover.

ATTENTION: To remove the front panel assembly and the DVD mechanism assembly, remove the fitting in advance.

—— by hand ——

1. Turn over the body. Insert a screwdriver into the hole of the bottom chassis and turnit. The loading tray will be ejected out of the front panel assembly.

2. Pull the loading tray toward the front.

3. Remove the fitting upward from the loading tray at the joints b.

4. Push and return the loading tray.

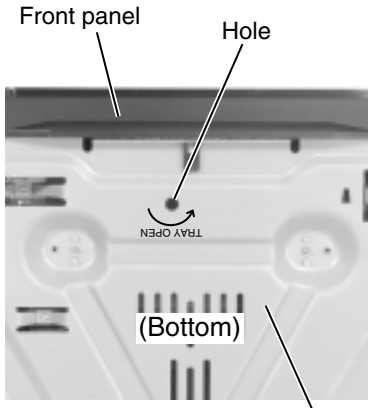


Fig.3

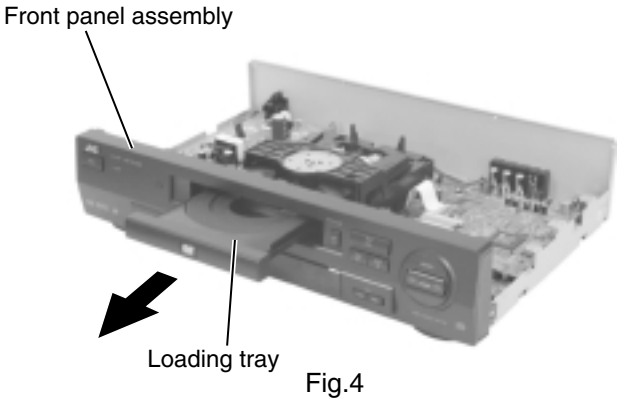


Fig.4

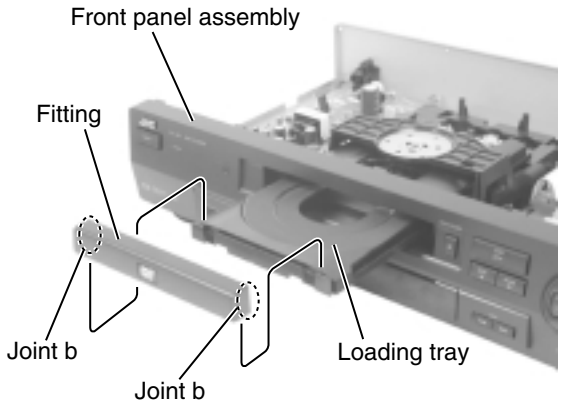


Fig.5

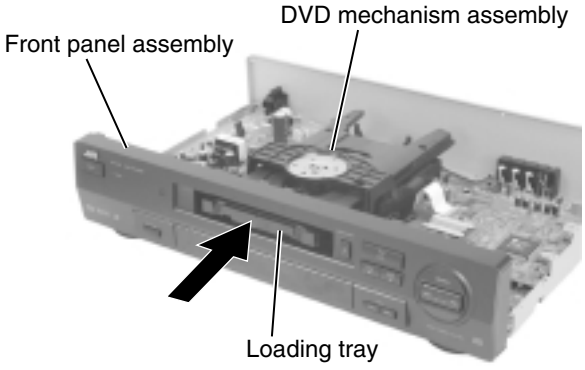


Fig.6

■ Removing the front panel assembly (See Fig.7 to 10)

・ Prior to performing the following procedure, remove the top cover and the fitting.

1. Disconnect the card wire from connector CN703 on the main board.

2. Turn over the body and remove the screw D attaching the front panel assembly.

3. Release the five joints c on both sides and bottom of the body and remove the front panel assembly toward the front.

ATTENTION: The connector CN832 on the front panel assembly and CN971 on the AC jack board will be disconnected at the same time.

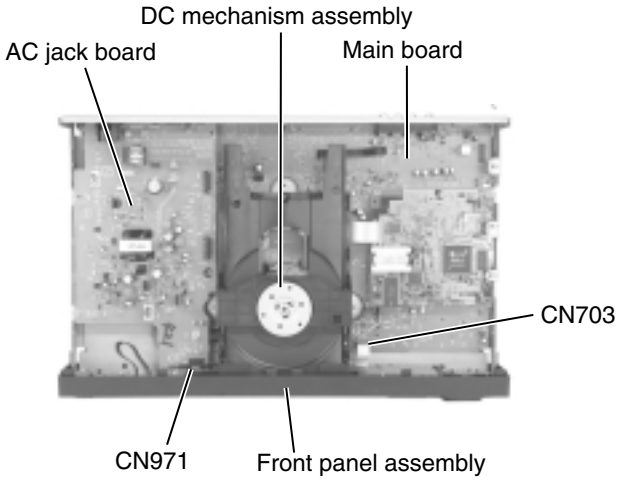


Fig.7

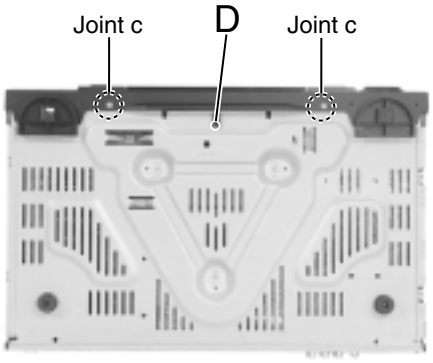


Fig.8

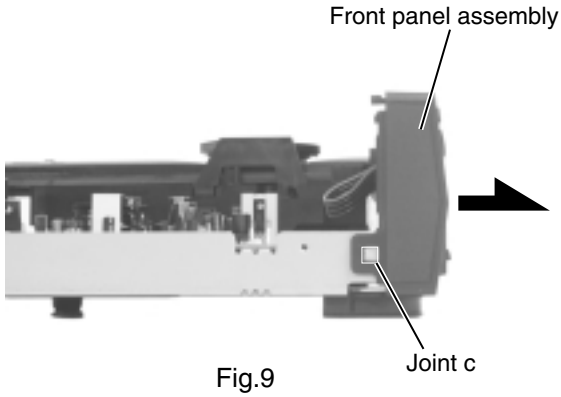


Fig.9

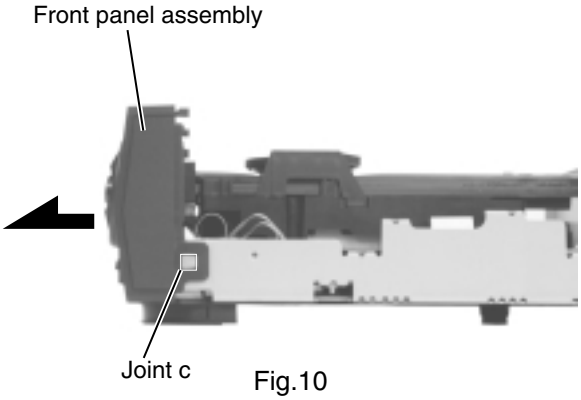


Fig.10

■ Removing the DVD mechanism assembly (See Fig.11 to 14)

・Prior to performing the following procedure, remove the top cover and the front panel assembly.

1. Disconnect the card wire from connector CN101 on the DVD Servo.

2. Disconnect the harness from connector CN031 on the DVD mechanism assembly.

3. Remove the screw E on the rear left part of the loading tray.

3. From the front side of the DVD mechanism assembly, move the lever d in the direction of the arrow and pull out the loading tray.

4. Remove the two screws F on the upper side of the DVD mechanism assembly. Then release the two joints e and detach the clamper base back-upward.

5. Remove the three screws G attaching the DVD mechanism assembly.

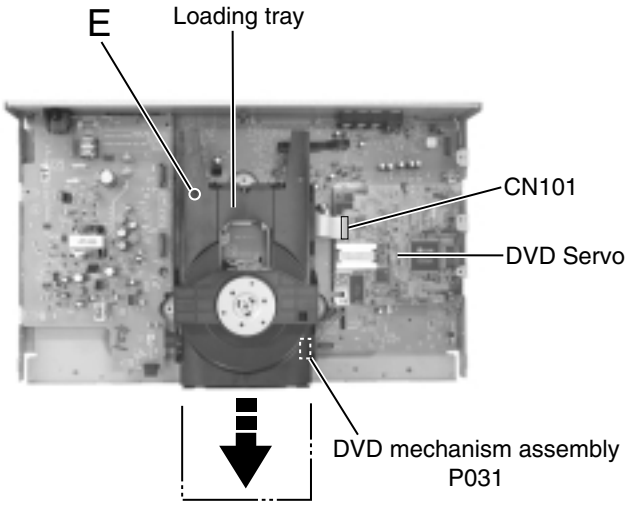


Fig.11

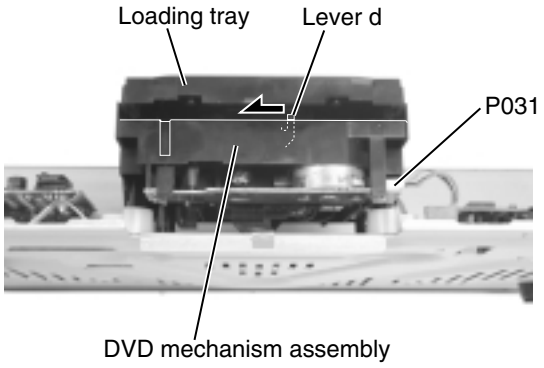


Fig.12

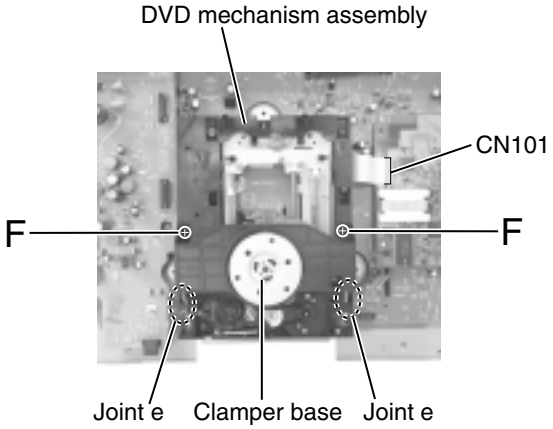


Fig.13

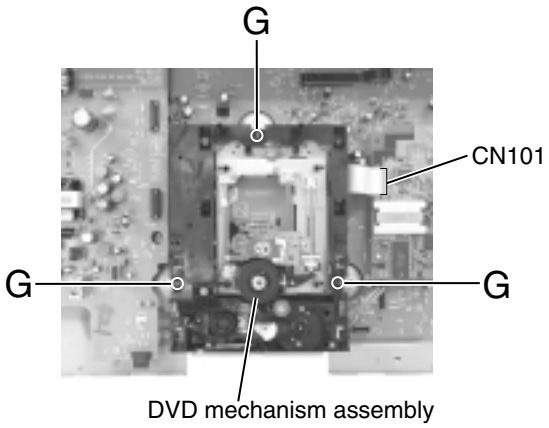


Fig.14

■ Removing the AC jack board
(See Fig.15 and 16)

・ Prior to performing the following procedure, remove the top cover and the front panel assembly.

1. Remove the two screws H attaching the AC jack board.
2. Remove the two screws C on the rear panel.
3. Disconnect connector CN951 and CN961 on the AC jack board from CN704 and CN705 on the main board respectively.

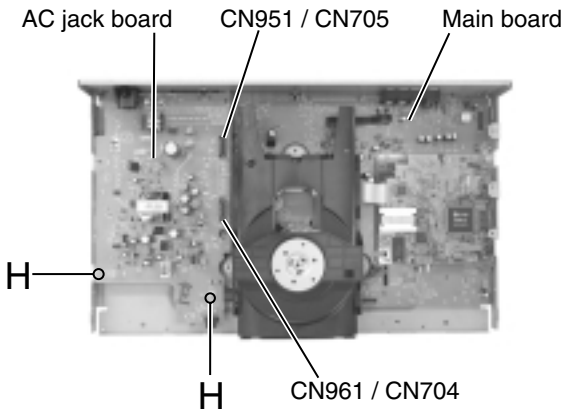


Fig.15

Fig.16

■ Removing the DVD Servo
(See Fig.17 and 18)

・ Prior to performing the following procedure, remove the top cover.

1. Remove the screw I attaching the DVD Servo.
2. Pull out the DVD Servo from the fix f while pinching the fix f.
3. Disconnect connector CN501, CN502 and CN503 on the DVD Servo from CN601, CN701 and CN706 on the main board respectively.

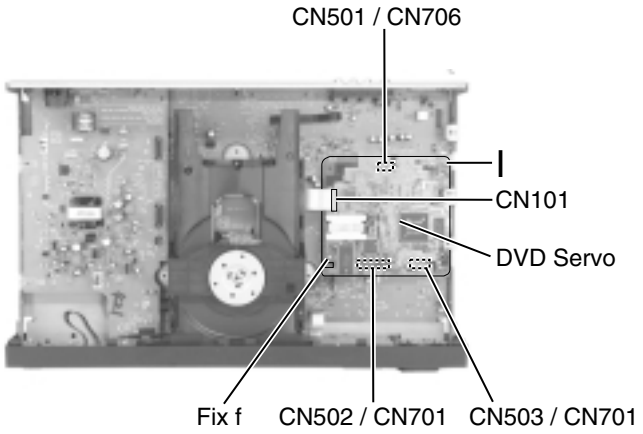
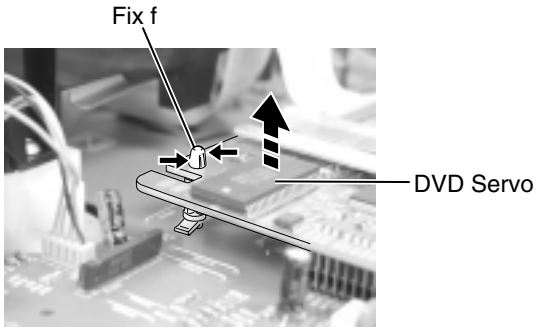


Fig.17



Main board

Fig.18

■ Removing the main board (See Fig.19 and 20)

・Prior to performing the following procedure, remove the top cover, the front panel assembly, the DVD mechanism assembly, the AC jack board and the DVD Servo.

1. Remove the three screws J attaching the main board.
2. Remove the two screws C on the rear panel.

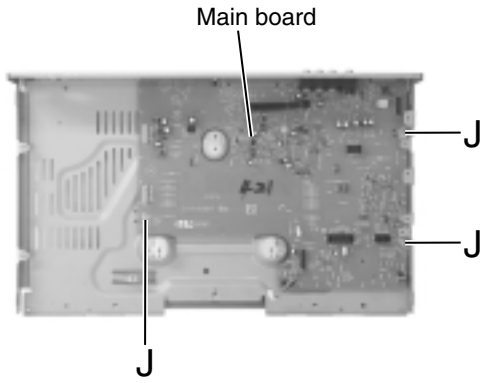


Fig.19

<Front panel assembly>

・Prior to performing the following procedure, remove the top cover and the front panel assembly.

■ Removing the power switch board (See Fig.21)

1. Unsolder connector FW841 on the power switch board on the back of the front panel assembly.
2. Remove the two screws K attaching the power switch board.
3. Push the two tabs g in the direction of the arrow and remove the power switch board.

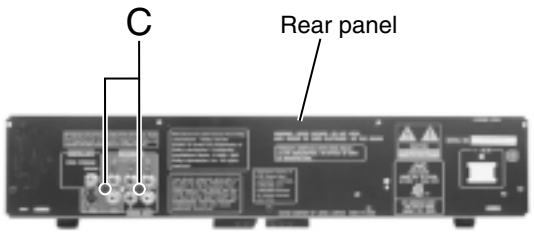


Fig.20

■ Removing the LCD board (See Fig.22)

1. Unsolder connector FW802 and soldering h on the LCD board.
2. Remove the four screws L attaching the LCD board.

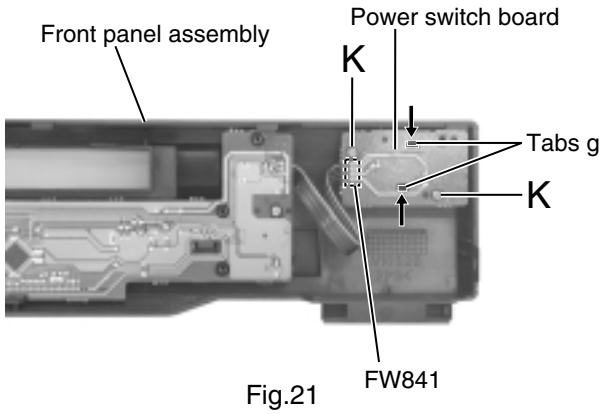


Fig.21

■ Removing the search switch board (See Fig.20)

1. Unsolder soldering i on the search switch board.
2. Remove the three screws M.
3. Release the four tabs j in the direction of the arrow and remove the search switch board.

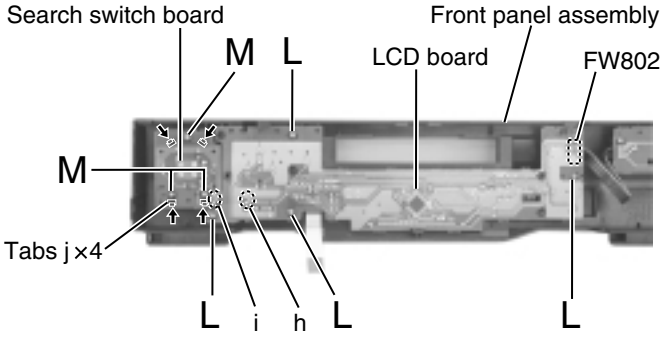


Fig.22

<DVD mechanism>

■ Removing the traverse mechanism unit (See Fig.1 and 2)

1. Remove the screw A and the spring on the upper side of the loading base assembly.

2. Move the rear part of the traverse mechanism unit upward and pull backward to release the two joints a with the base chassis.

   ATTENTION: When reattaching, engage the two joints a and make sure the front springs and the four insulators of the traverse mechanism unit are correctly attached.

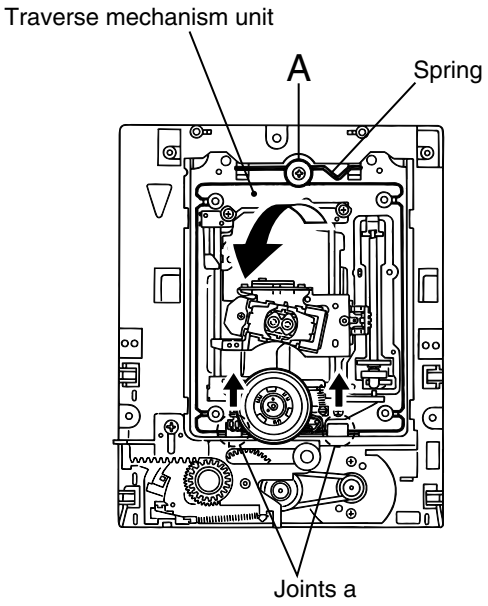


Fig.1

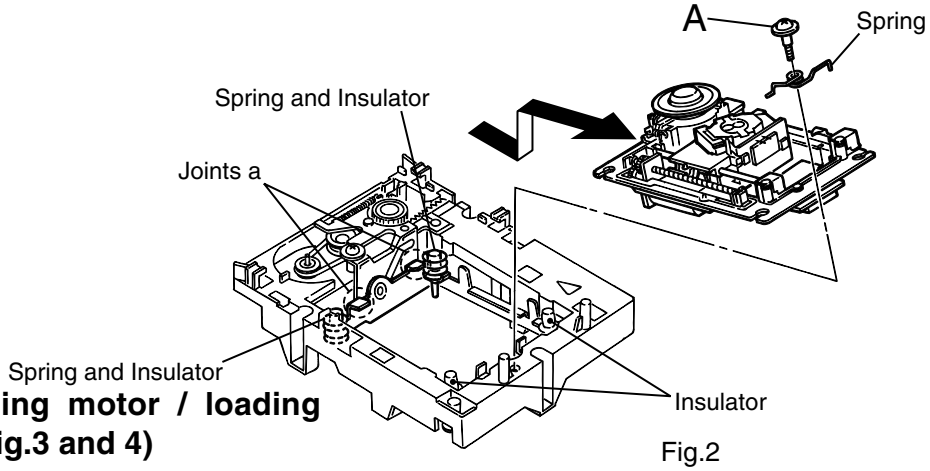


Fig.2

■ Removing the loading motor / loading motor board (See Fig.3 and 4)

1. Move the cam plate on the upper side of the loading base assembly in the direction of the arrow.

2. Remove the belt from the motor pulley.

3. Remove the two screws B attaching the loading motor.

4. Turn over the loading base assembly and release the loading motor board from the three tabs b while spreading them outward. The loading motor board will be detached with the loading motor.

5. Unsolder soldering c on the loading motor board and remove the loading motor.

   Ref.: To remove the loading motor board only, unsolder soldering c on the loading motor and release the three tabs b.

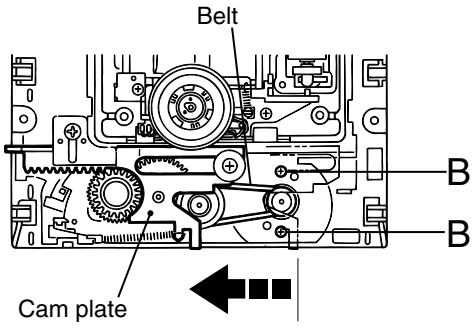


Fig.3

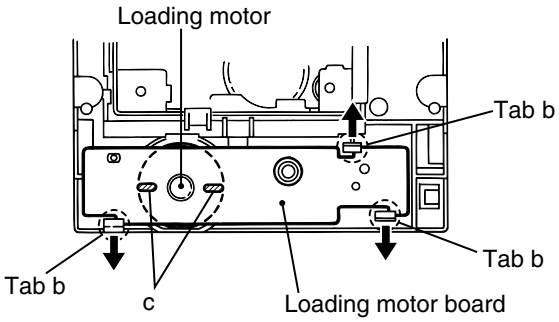


Fig.4

■Removing the pickup (See Fig.5 to 9)

※It is not necessary to remove the traverse mechanism unit.

1. Solder soldering d on the flexible board next to the pickup unit.

2. From the bottom of the traverse mechanism unit, disconnect the flexible wire from CN10 on the pickup board.

   ATTENTION: Disconnecting the flexible wire without soldering may cause damage to the pickup.

3. Remove the screw C attaching the shaft stopper (R) on the upper side of the traverse mechanism unit. Pull the side of the shaft stopper (R) outward to release the joint e and remove it upward. Remove the skew spring at the same time.

4. Move the shaft in the direction of the arrow to release it from the part f.

5. Release the joint g with the shaft and remove the pickup with the shaft.

6. Pull out the shaft.

7. Remove the screw D attaching the switch actuator.

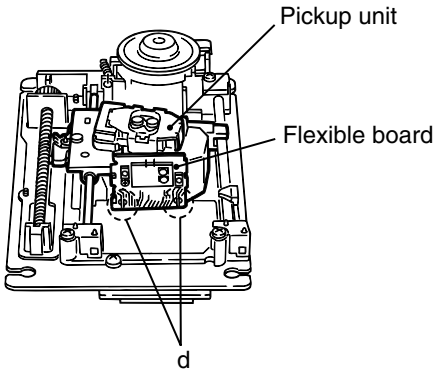


Fig.5

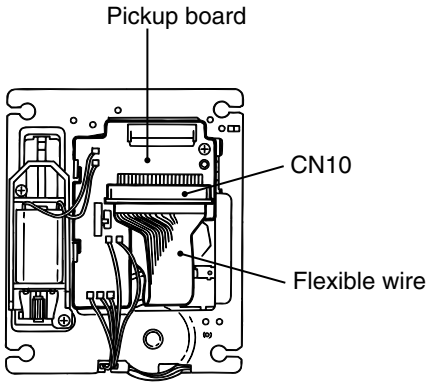


Fig.6

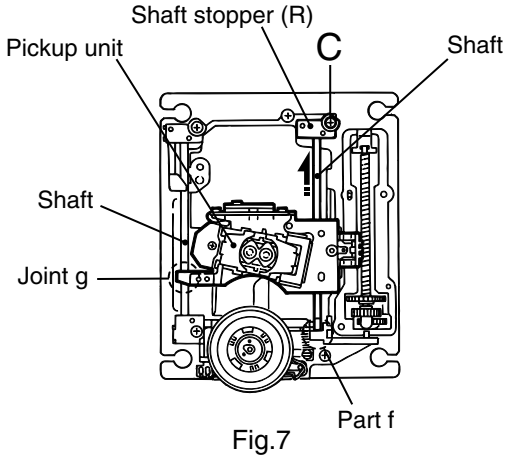


Fig.7

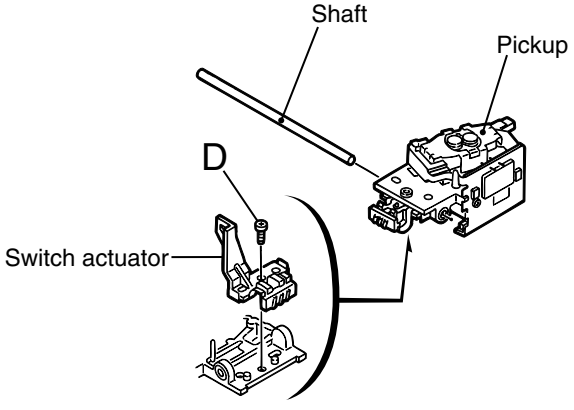


Fig.9

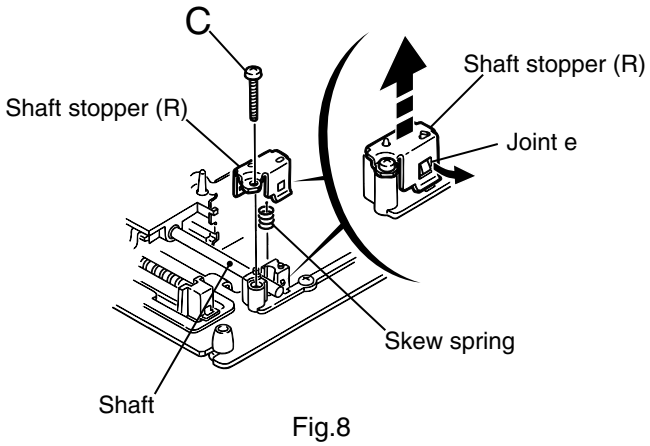


Fig.8

■ Removing the pickup board (See Fig.5 and 10)

※ It is not necessary to remove the traverse mechanism unit.

1. Solder soldering d on the flexible board next to the pickup unit.
2. From the bottom of the traverse mechanism unit, disconnect the flexible wire from CN10 on the pickup board.

   ATTENTION: Disconnecting the flexible wire without soldering may cause damage to the pickup.
3. Unsolder soldering h, i and j of each harness on the pickup board.
4. Remove the screw E attaching the pickup board and release the two joints k.

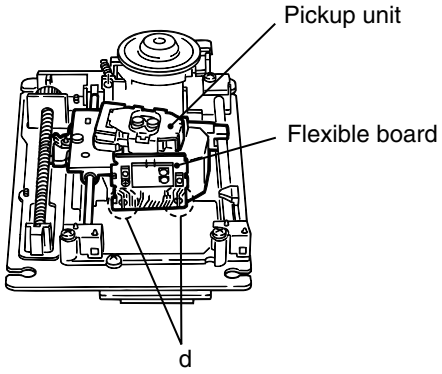


Fig.5

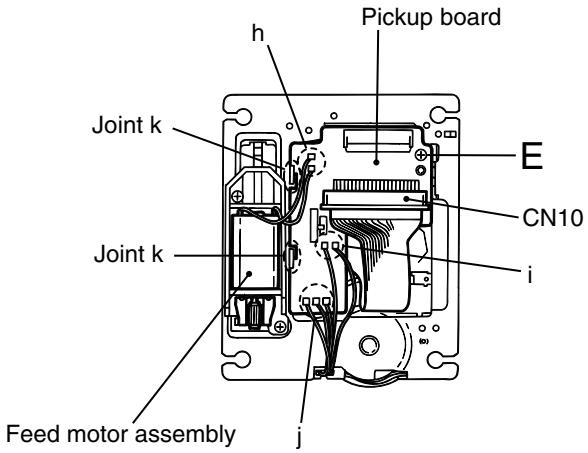


Fig.10

■ Removing the feed motor assembly (See Fig.5, 10 and 11)

・ Prior to performing the following procedure, remove the traverse mechanism unit.

1. Solder soldering d on the flexible board next to the pickup unit.
2. From the bottom of the traverse mechanism unit, disconnect the flexible wire from CN10 on the pickup board.

   ATTENTION: Disconnecting the flexible wire without soldering may cause damage to the pickup.
3. Unsolder soldering h of the motor harness on the pickup board.
4. Remove the two screws F attaching the feed motor assembly and remove the thrust spring. Move the feed motor assembly in the direction of the arrow to pull it out from the feed holder.

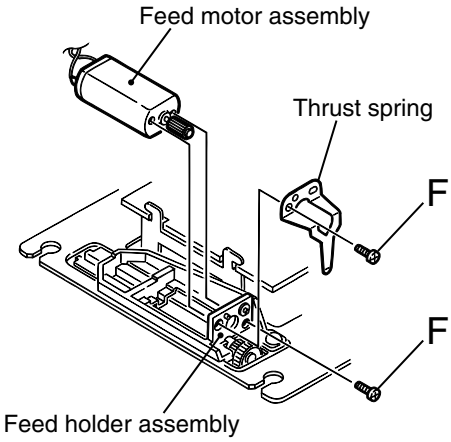


Fig.11

■Removing the turn table assembly (See Fig.5, 10, 12 and 13)

・ Prior to performing the following procedure, remove the traverse mechanism unit.

1. Solder soldering d on the flexible board next to the pickup unit.

2. From the bottom of the traverse mechanism unit, disconnect the flexible wire from CN10 on the pickup board.

   ATTENTION: Disconnecting the flexible wire without soldering may cause damage to the pickup.

3. Unsolder soldering i and j of the harness extending from the turning table assembly to the pickup board.

4. Remove the screw G attaching the shaft stopper (F) on the upper side of the traverse mechanism unit. Pull the side of the shaft stopper (F) outward to release the joint l and remove it upward. Remove the spring at the same time.

5. Remove the screw H attaching the turn table assembly.

6. Move the turn table assembly outward and pull out from the shaft. Then remove it from the base chassis.

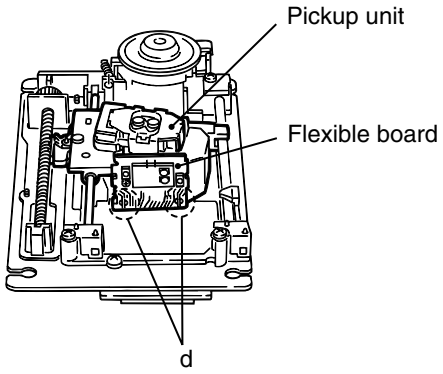


Fig.5

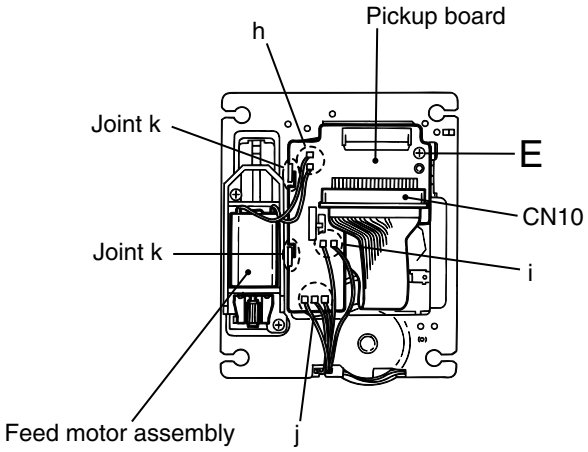


Fig.10

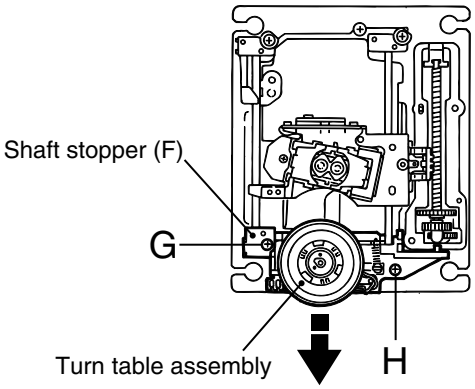


Fig.12

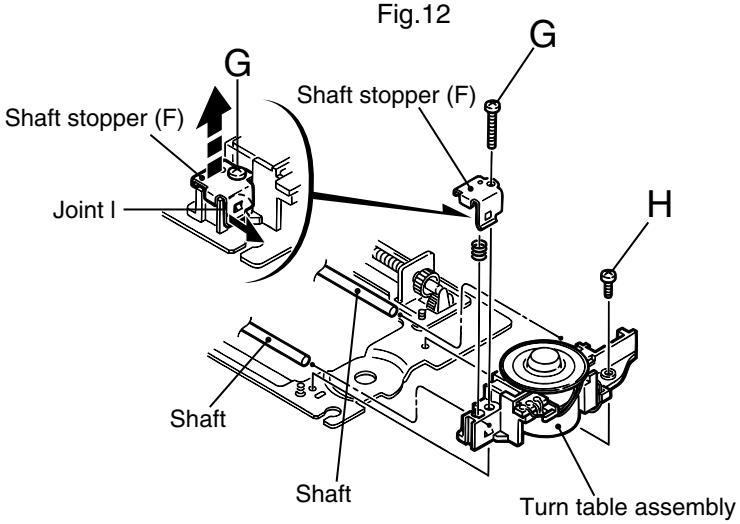


Fig.13

Precautions for Service

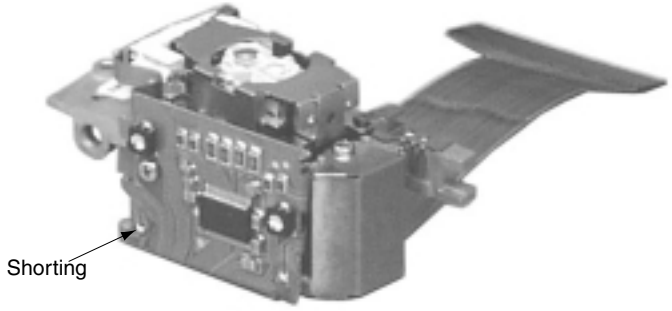
Handling of Traverse Unit and Laser Pickup

1. Do not touch any peripheral element of the pickup or the actuator.
2. The traverse unit and the pickup are precision devices and therefore must not be subjected to strong shock.
3. Do not use a tester to examine the laser diode. (The diode can easily be destroyed by the internal power supply of the tester.)
4. To replace the traverse unit, pull out the metal short pin for protection from charging.
5. When replacing the pickup, after mounting a new pickup, remove the solder on the short land which is provided at the center of the flexible wire to open the circuit.
6. Half-fixed resistors for laser power adjustment are adjusted in pairs at shipment to match the characteristics of the optical block.
   Do not change the setting of these half-fixed resistors for laser power adjustment.

Destruction of Traverse Unit and Laser Pickup by Static Electricity

Laser diodes are easily destroyed by static electricity charged on clothing or the human body. Before repairing peripheral elements of the traverse unit or pickup, be sure to take the following electrostatic protection:

1. Wear an antistatic wrist wrap.
2. With a conductive sheet or a steel plate on the workbench on which the traverse unit or the pick up is to be repaired, ground the sheet or the plate.
3. After removing the flexible wire from the connector (CN101), short-circuit the flexible wire by the metal clip.
4. Short-circuit the laser diode by soldering the land which is provided at the center of the flexible wire for the pickup.
   After completing the repair, remove the solder to open the circuit.

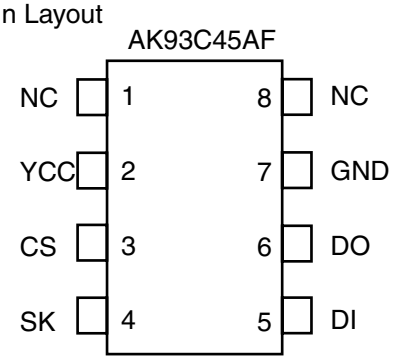


When replacing the Mechanism Unit, turn ON the laser switch that is located at the lower of the pick up after replacement.

Description of major ICs

■ AK93C45AF-W (IC791) : CMOS EEPROM

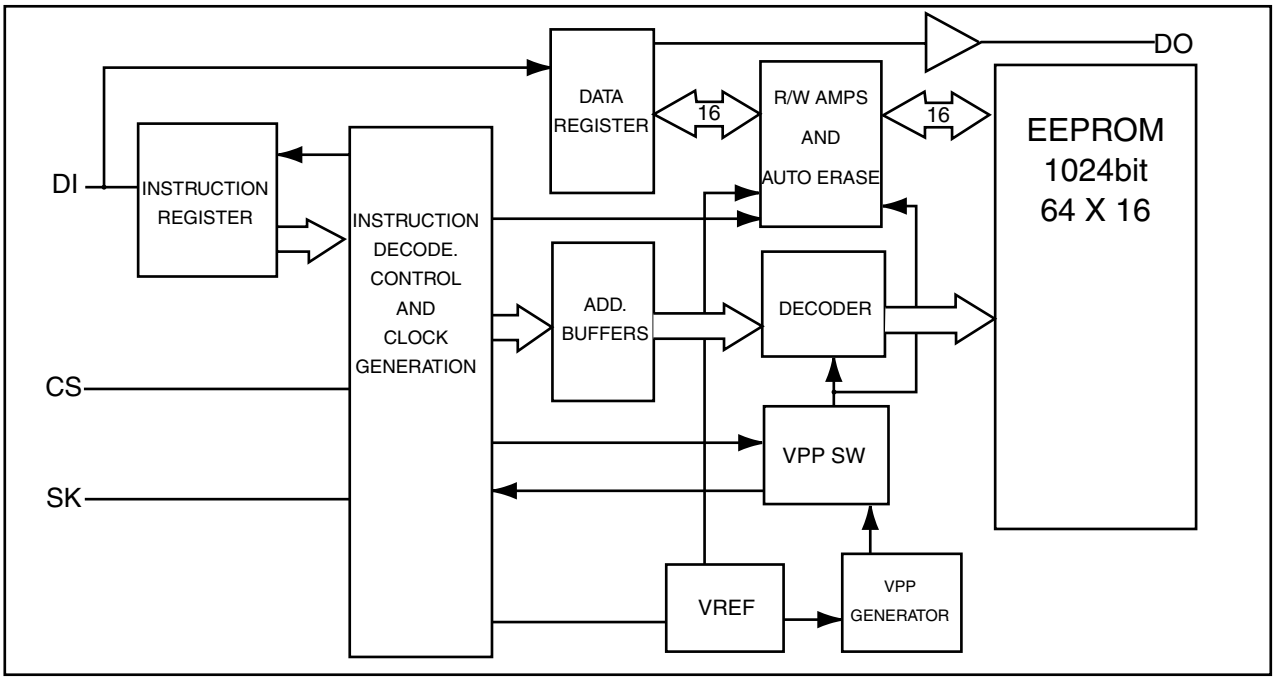
1.Pin Layout



2.Pin Functions

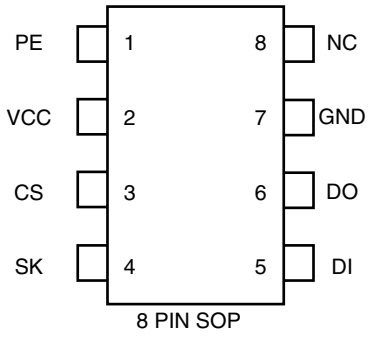
Symbol	Function
CS	Chip Select
SK	Serial Clock Input
DI	Serial Data Input
DO	Serial Data Output
Vcc	Power Supply
GND	Ground
NC	Non connection

3.Block Diagram

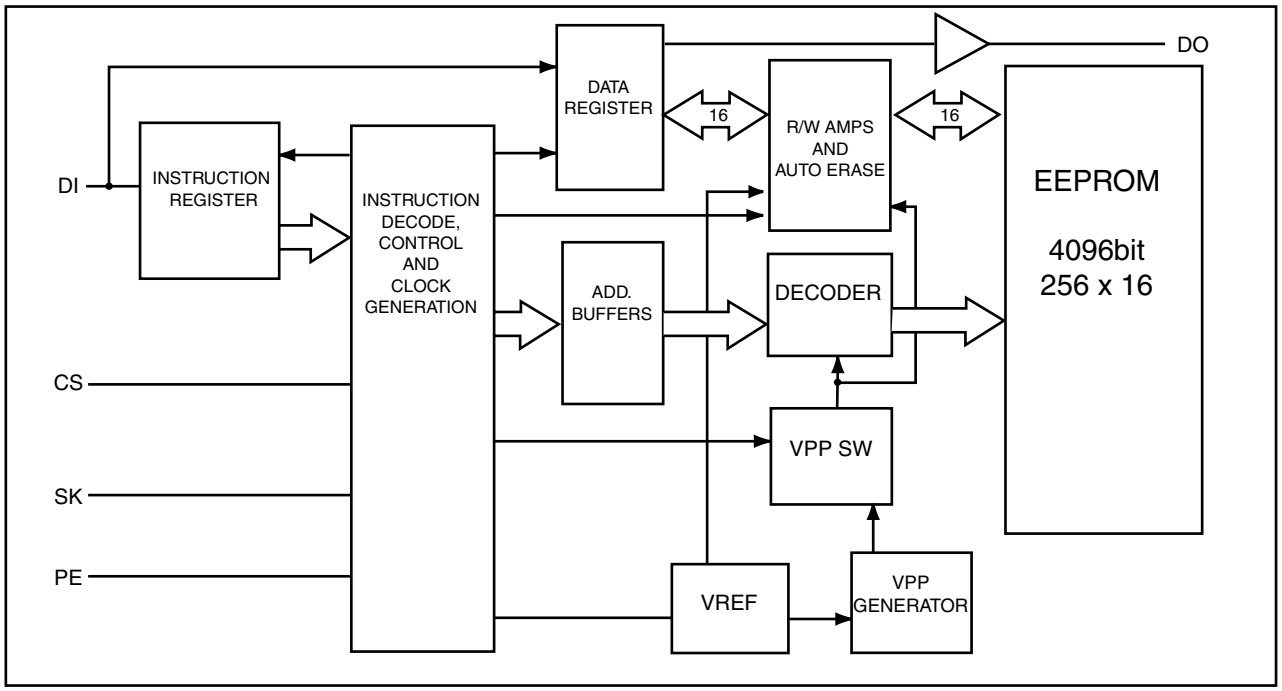


■ AK93C65AF-X (IC403) : EEPROM

1.Terminal layout



2.Block diagram



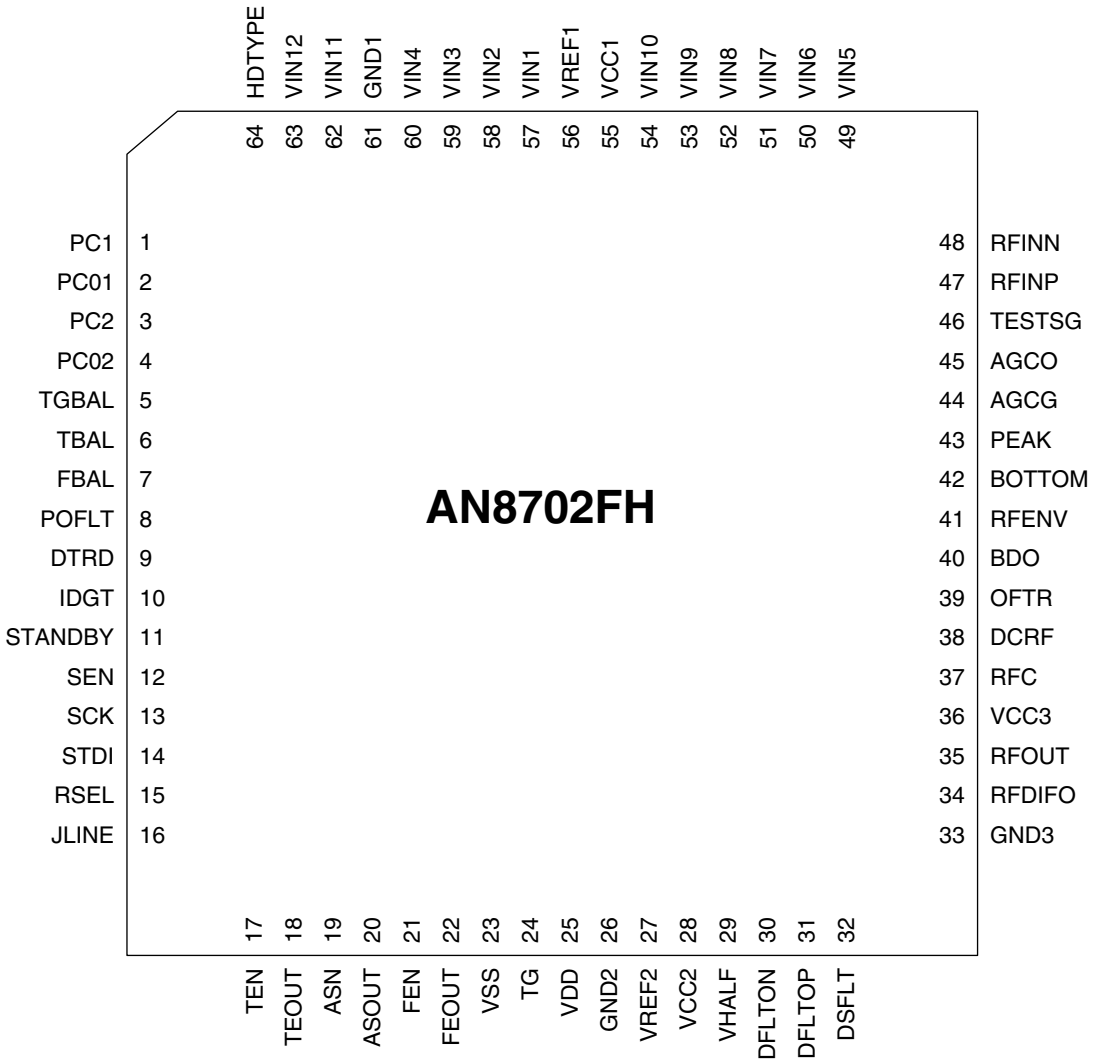
3.Pin function

Pin no.	Symbol	Function
1	PE	Program enable (With built-in pull-up resistor)
2	VCC	Power supply
3	CS	Chip selection
4	SK	Cereal clock input
5	DI	Cereal data input
6	DO	Cereal data output
7	GND	Ground
8	NC	No connection

NOTE : The pull-up resistor of the PE pin is about 2.5M Ω (VCC=5V)

■ AN8702FH (IC101) : Front end processor

1.Terminal Layout



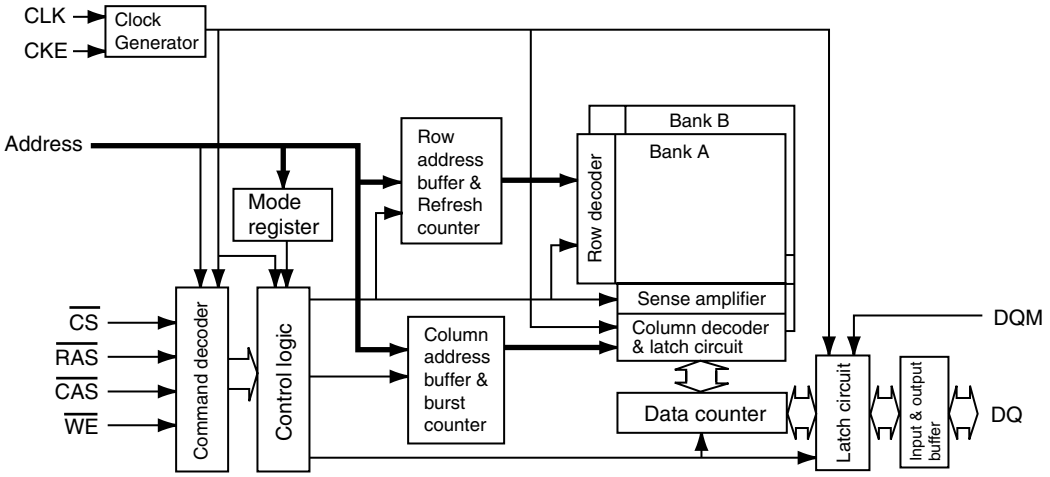
2.Pin Functions

Pin No.	Symbol	I/O	Function
1	PC1		
2	PC01		
3	PC2		
4	PC02		
5	TGBAL	I	Tangential phase balance control terminal
6	TBAL	I	Tracking balance control terminal
7	FBAL	I	Focus balance control terminal
8	POFLT	O	Track detection threshold value level terminal
9	DTRD	I	Data slice part data read signal input terminal (For RAM)
10	IDGT	I	Data slice part address part gate signal input terminal (For RAM)
11	STANDBY	I	Standby mode control terminal
12	SEN	I	SEN (Serial data input terminal)
13	SCK	I	SCK (Serial data input terminal)
14	STDI	I	STDI (Serial data input terminal)
15	RSEL		
16	JLINE		
17	TEN		
18	TEOUT	O	Tracking error signal output terminal

Pin No.	Symbol	I/O	Function
19	ASN		
20	ASOUT		
21	FEN	I	Focus error output amplifier reversing input terminal
22	FEOUT	O	Focus error signal output terminal
23	VSS	-	Ground
24	TG	O	Tangential phase error signal output terminal
25	VDD	-	Apply 3V
26	GND2	-	Ground
27	VREF2	O	VREF2 voltage output terminal
28	VCC2	-	Apply 5V
29	VHALF	O	VHALF voltage output terminal
30	DFLTON		
31	DFLTOP		
32	DSFLT		
33	GND3	-	Ground
34	RFDIFO		
35	RFOUT		
36	VCC3	-	Apply 5V
37	RFC		
38	DCRF	O	All addition amplifier capacitor terminal
39	OFTR	O	OFTR output terminal
40	BDO		
41	RFENV	O	RF envelope output terminal
42	BOTTOM	O	Bottom envelope detection filter terminal
43	PEAK	O	Peak envelope detection filter terminal
44	AGCG	O	AGC amplifier gain control terminal
45	AGCO		
46	TESTSG	I	TEST signal input terminal
47	RFINP	I	RF signal positive input terminal
48	RFINN	I	RF signal negative input terminal
49	VIN5	I	Focus input of external division into two terminal
50	VIN6	I	Focus input of external division into two terminal
51	VIN7	I	
52	VIN8	I	I
53	VIN9	I	
54	VIN10	I	
55	VCC1	-	Apply 5V
56	VREF1	O	VREF1 voltage output terminal
57	VIN1	I	External division into four (DVD/CD) RF input terminal1
58	VIN2	I	External division into four (DVD/CD) RF input terminal2
59	VIN3	I	External division into four (DVD/CD) RF input terminal3
60	VIN4	I	External division into four (DVD/CD) RF input terminal4
61	GND1	-	Ground
62	VIN11	I	
63	VIN12	I	
64	HDTYPE		

■ HY57V161610DTC8 or KM416S1120DT-G8 (IC504,IC505) : 16MB SDRAM

1.Block diagram

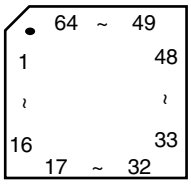


2.Pin function

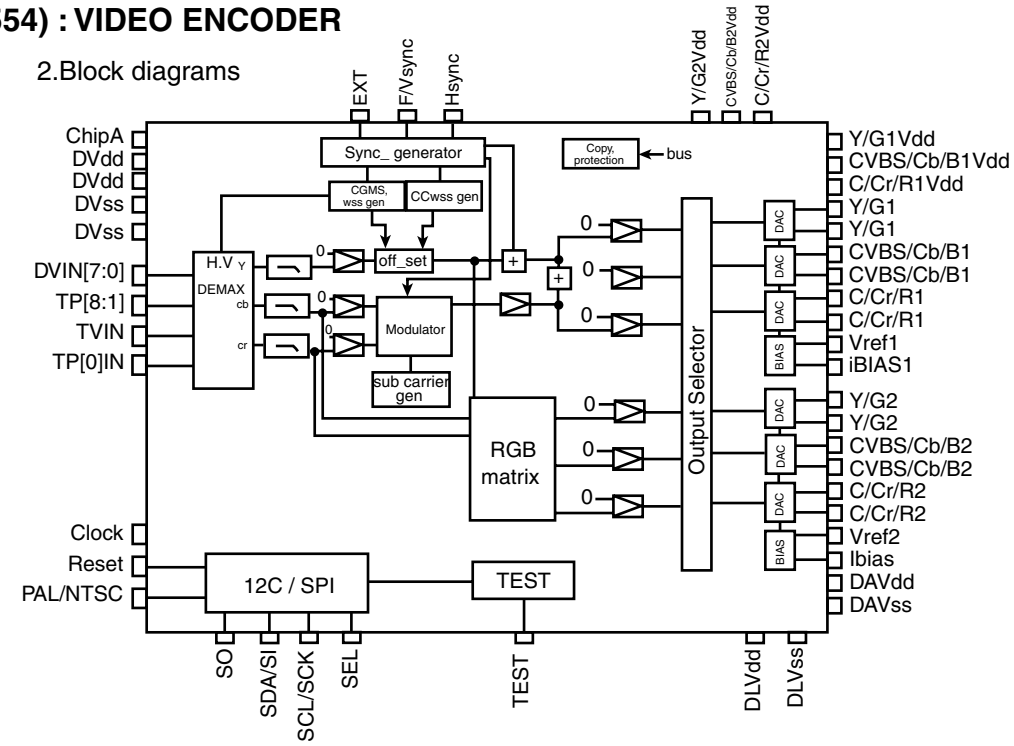
Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	VCC	Power supply	26	VSS	Connect to GND
2,3	DQ0,1	Data input/output	27~32	A4~9	Address inputs
4	VSS	Connect to GND	33	NC	Non connect
5,6	DQ2,3	Data input/output	34	CKE	Clock enable
7	VDD	Power supply	35	CLK	System clock input
8,9	DQ4,5	Data input/output	36	UDQM	Upper DQ mask enable
10	VSS	Connect to GND	37	NC	Non connect
11,12	DQ6,7	Data input/output	38	VCC	Power supply
13	VCC	Power supply	39,40	DQ8,9	Data input/output
14	LDQM	Lower DQ mask enable	41	VSS	Connect to GND
15	$\overline{WE}$	Write enable	42,43	DQ10,11	Data input/output
16	$\overline{CAS}$	Column address strobe	44	VDD	Power supply
17	$\overline{RAS}$	Row address strobe	45,46	DQ12,13	Data input/output
18	$\overline{CS}$	Chip enable	47	VSS	Connect to GND
19,20	A11,10	Address inputs	48,49	DQ14,15	Data input/output
21~24	A0~3	Address inputs	50	VSS	Connect to GND
25	VCC	Power supply			

■ MC44724AVFU (IC554) : VIDEO ENCODER

1.Terminal layout



2.Block diagrams

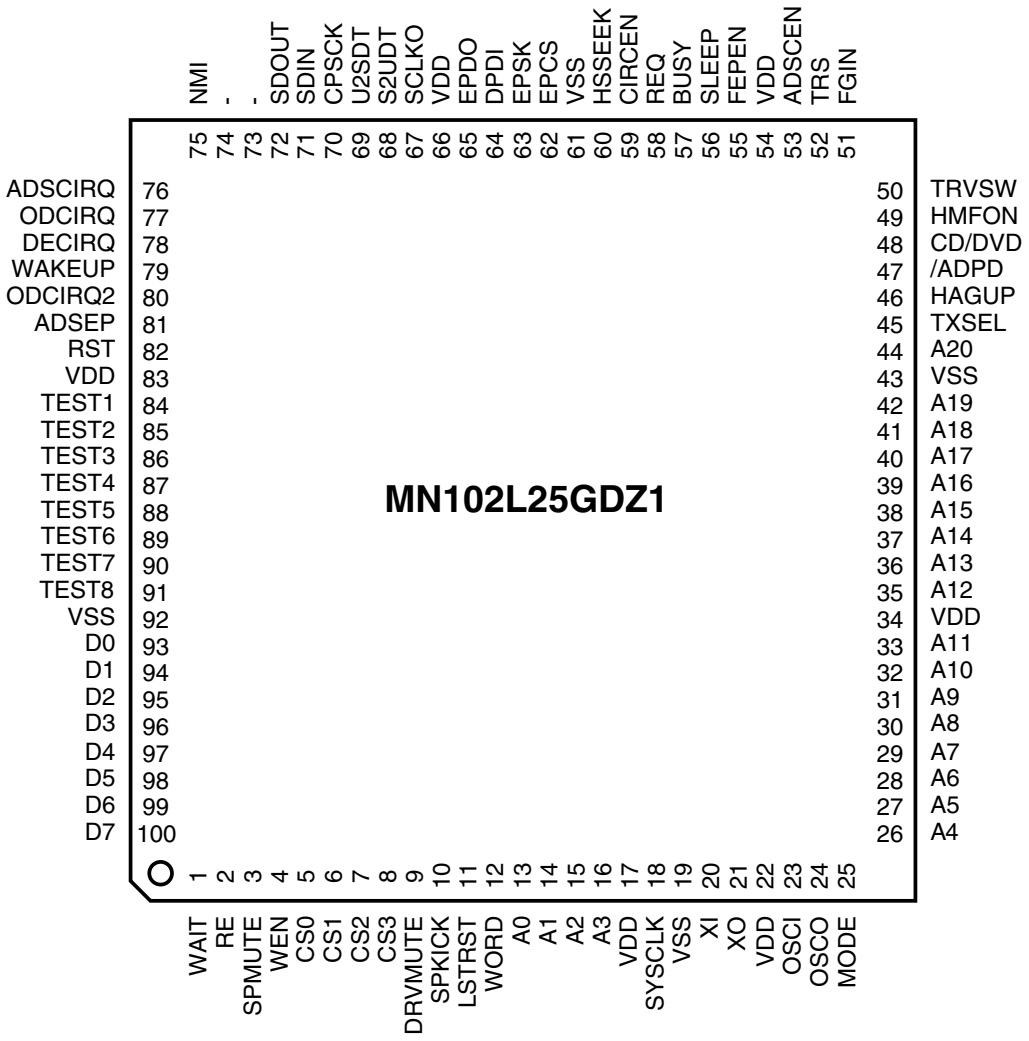


3.Pin function

No.	Symbol	I/O	Function	No.	Symbol	I/O	Function
1	CVBS/Cb/B1	O	Analog composite drive signal (+)	33	SO	-	Non connect
2	$\overline{\text{CVBS/Cb/B1}}$	O	Analog composite drive signal (-)	34	SDA/SI	I	SPI Mode : Serial data input
3	CVBS/Cb/B1Vdd	-	Power supply for CVBS/Cb/B DAC1	35	SCL/SCK	I	Serial clock input
4	Y/G1	O	Analog brightness signal/G drive signal (+)	36	SEL	I	Power supply for serial data,chip select,digital
5	$\overline{\text{Y/G1}}$	O	Analog brightness signal/G drive signal (-)	37	DVdd	--	Power supply for digital circuit
6	Y/G1/Vdd	-	Power supply for Y/G DAC	38	DVss	--	Digital ground
7	C/Cr/R1	O	Analog chroma signal (+)	39	DVIN7	I/O	Y data input / test data I/O
8	$\overline{\text{C/Cr/R1}}$	O	Analog chroma signal (-)	40	DVIN6	I/O	Y data input / test data I/O
9	C/Cr/R1Vdd	-	Power supply for C/Cr/RDAC	41	DVIN5	I/O	Y data input / test data I/O
10	DAVss	-	Connect to ground for DAC	42	DVIN4	I/O	Y data input / test data I/O
11	TBIAS1	O	Standard BIAS for DAC1	43	DVIN3	I/O	Y data input / test data I/O
12	Vref1	-	Standard voltage for DAC1	44	DVIN2	I/O	Y data input / test data I/O
13	DAVdd	-	Power supply for DAC	45	DVIN1	I/O	Y data input / test data I/O
14	Vref2	-	Standard voltage for DAC2	46	DVIN0	I/O	Y data input / test data I/O
15	TBIAS2	O	Standard BIAS for DAC2	47	TVIN	I	VIDEO mute on Reset(0:nomal, 1:mute)
16	NC	-	Non connect	48	EXT	I/O	Frame output / VBI information input
17	CVBS/Cb/B2	O	Analog composite drive signal (+)	49	F/Vsyac	I/O	Frame / Vertical, synchronous I/O
18	CVBS/Cb/B2	O	Analog composite drive signal (-)	50	Chsyac	I/O	The horizontal, synchronous I/O
19	CVBS/Cb/B2Vdd	-	Power supply for CVBS/Cb/B DAC2	51	DATST	I	Data input
20	Y/G2	O	Analog brightness signal/G drive signal (+)	52	TP-8	I/O	Multiplex data input
21	$\overline{\text{Y/G2}}$	O	Analog brightness signal/G drive signal (-)	53	TP7	I/O	Multiplex data input
22	Y/GVdd	-	Power supply for Y/G DAC	54	TP6	I/O	Multiplex data input
23	C/Cr/R2	O	Analog chroma signal (+)	55	TP5	I/O	Multiplex data input
24	$\overline{\text{C/Cr/R2}}$	O	Analog chroma signal (-)	56	DVss	-	Ground for digital circuit
25	C/Cr/R2Vdd	-	Power supply for C/Cr/RDAC2	57	DVdd	-	Power supply for digital circuit
26	ChipA	-	Chip address selection	58	TP4	I/O	Data input / Test data I/O
27	TEST	I	Connect to test pin	59	TP3	I/O	Data input / Test data I/O
28	DVdd	-	Digital ground	60	TP2	I/O	Data input / Test data I/O
29	CLOCK	I	Clock signal input (27MHz)	61	TP1	I/O	Data input / Test data I/O
30	DVss	-	Power supply for digital circuit	62	TP0	I/O	Data input / Test data I/O
31	Reset	I	Reset signal input L:ON	63	DLVdd	-	Power supply for D/A converter
32	PAL/NTSC	I	Selection NTSC/PAL NTSC:L PAL:H	64	DLVss	-	Ground for D/A converter

■ MN102L25GDZ1 (IC401) : UNIT CPU

1.Terminal layout

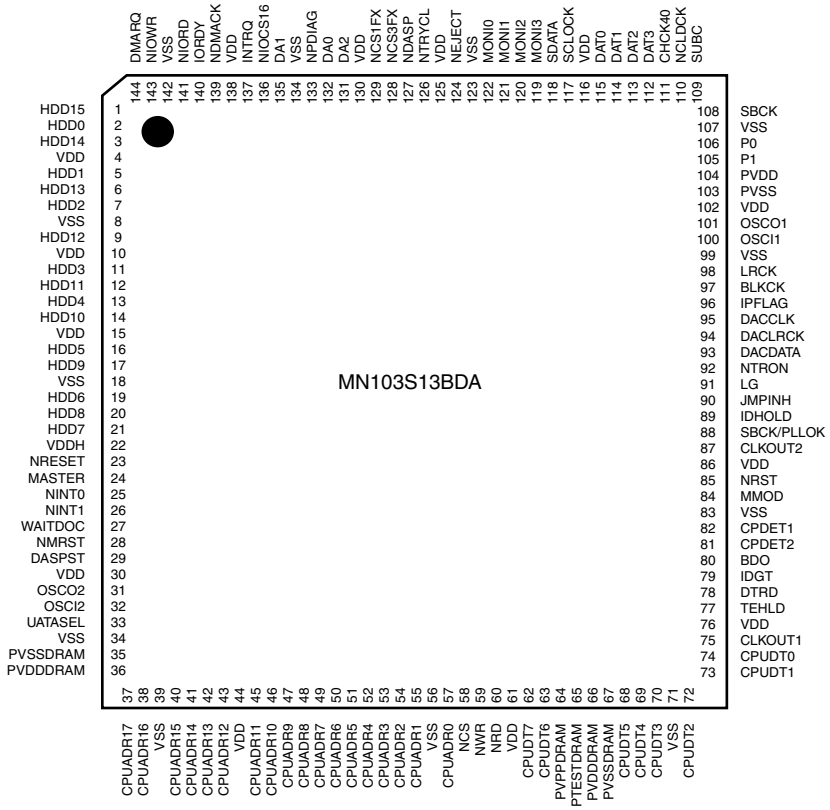


2.Pin function

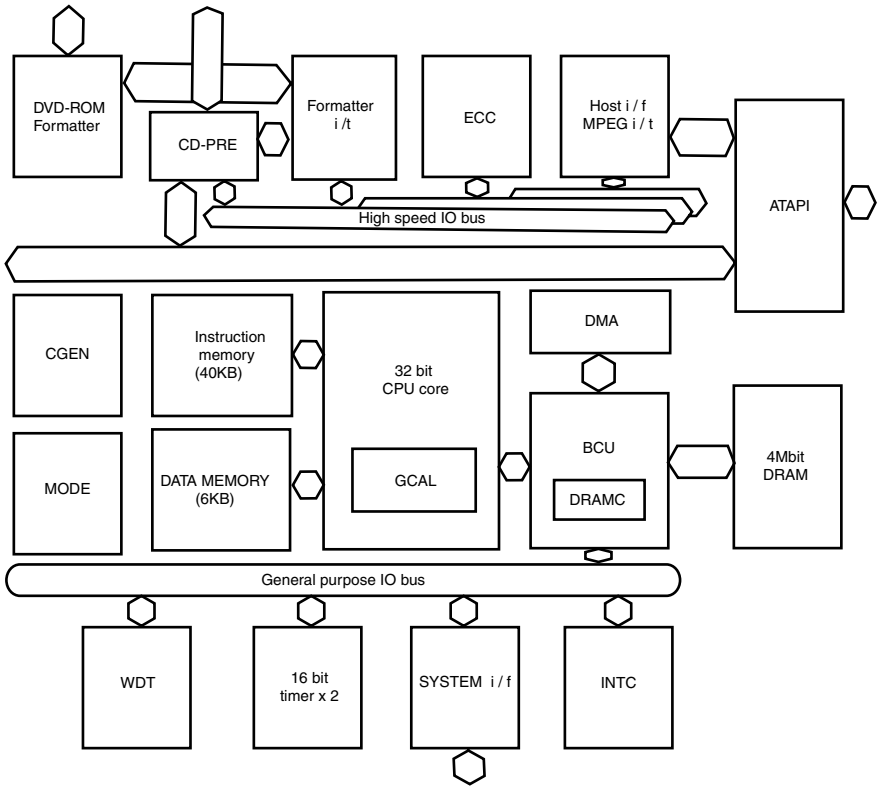
Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	WAIT	I	Micon wait signal input	51	FGIN	I	Photo input
2	RE	O	Read enable	52	TRS		
3	SPMUTE	O		53	ADSCEN	O	Serial enable signal for ADSC
4	WEN	O	Write enable	54	VDD	-	Power supply
5	CS0	O	Non connect	55	FEPEN	O	Serial enable signal for FEP
6	CS1	O	Chip select for ODC	56	SLEEP	O	Standby signal for FEP
7	CS2	O	Chip select for ZIVA	57	BUSY	I	Communication busy
8	CS3	O	Chip select for outer ROM	58	REQ	O	Communication Request
9	DRVMUTE	O	Driver mute	59	CIRCEN	O	CIRC command select
10	SPKICK	O	Spin kick (Non connect)	60	HSSEEK	O	Seek select
11	LSIRST	O	LSI reset	61	VSS	-	Ground
12	WORD	O	Bus selection input	62	EPCS	O	EEPROM chip select
13	A0	O	Address bus 0 for CPU	63	EPSK	O	EEPROM clock
14	A1	O	Address bus 1 for CPU	64	DPDI	I	EEPROM data input
15	A2	O	Address bus 2 for CPU	65	EPDO	O	EEPROM data output
16	A3	O	Address bus 3 for CPU	66	VDD	-	Power supply
17	VDD	-	Power supply	67	SCLKO	I	Communication clock
18	SYSCLK	O	System clock signal output	68	S2UDT	I	Communication input data
19	VSS	-	Ground	69	U2SDT	O	Communication output data
20	XI	-	Not use (Connect to vss)	70	CPSCK	O	Clock for ADSC serial
21	XO	-	Non connect	71	SDIN	I	ADSC serial data input
22	VDD	-	Power supply	72	SDOUT	O	ADSC serial data output
23	OSCI	I	Clock signal input(13.5MHz)	73	-	-	Not use
24	OSCO	O	Clock signal output(13.5MHz)	74	-	-	Not use
25	MODE	I	CPU Mode selection input	75	NMI	-	Not use
26	A4	O	Address bus 4 for CPU	76	ADSCIRQ	I	Interrupt input of ADSC
27	A5	O	Address bus 5 for CPU	77	ODCIRQ	I	Interrupt input of ODC
28	A6	O	Address bus 6 for CPU	78	DECIRQ	I	Interrupt input of ZIVA
29	A7	O	Address bus 7 for CPU	79	WAKEUP	O	Not use
30	A8	O	Address bus 8 for CPU	80	ODCIRQ2	I	
31	A9	O	Address bus 9 for CPU	81	ADSEP	I	Address data selection input
32	A10	O	Address bus 10 for CPU	82	RST	I	Reset input
33	A11	O	Address bus 11 for CPU	83	VDD	-	Power supply
34	VDD	-	Power supply	84	TEST1	I	Test signal 1 input
35	A12	O	Address bus 12 for CPU	85	TEST2	I	Test signal 2 input
36	A13	O	Address bus 13 for CPU	86	TEST3	I	Test signal 3 input
37	A14	O	Address bus 14 for CPU	87	TEST4	I	Test signal 4 input
38	A15	O	Address bus 15 for CPU	88	TEST5	I	Test signal 5 input
39	A16	O	Address bus 16 for CPU	89	TEST6	I	Test signal 6 input
40	A17	O	Address bus 17 for CPU	90	TEST7	I	Test signal 7 input
41	A18	O	Address bus 18 for CPU	91	TEST8	I	Test signal 8 input
42	A19	O	Address bus 19 for CPU	92	VSS	-	Ground
43	VSS	-	Ground	93	D0	I/O	Data bus 0 of CPU
44	A20	O	Address bus 20 for CPU	94	D1	I/O	Data bus 1 of CPU
45	TXSEL	O	TX Select	95	D2	I/O	Data bus 2 of CPU
46	HAGUP	O		96	D3	I/O	Data bus 3 of CPU
47	/ADPD			97	D4	I/O	Data bus 4 of CPU
48	CD/DVD	O		98	D5	I/O	Data bus 5 of CPU
49	HMFON			99	D6	I/O	Data bus 6 of CPU
50	TRVSW	I	Detection switch of traverse inside	100	D7	I/O	Data bus 7 of CPU

MN103S13BDA (IC301) : Optical disc controller

1.Terminal layout



2.Block diagram



3.Pin function

Pin NO.	Symbol	I/O	Function
1	HDD15	I/O	ATAPI data
2	HDD0	I/O	ATAPI data
3	HDD14	I/O	ATAPI data
4	VDD	-	Apply 3V
5	HDD1	I/O	ATAPI data
6	HDD13	I/O	ATAPI data
7	HDD2	I/O	ATAPI data
8	VSS	-	GND
9	HDD12	I/O	ATAPI data
10	VDD	-	Apply 2.7V
11	HDD3	I/O	ATAPI data
12	HDD11	I/O	ATAPI data
13	HDD4	I/O	ATAPI data
14	HDD10	I/O	ATAPI data
15	VDD	-	Apply 3V
16	HDD5	I/O	ATAPI data
17	HDD9	I/O	ATAPI data
18	VSS	-	GND
19	HDD6	I/O	ATAPI data
20	HDD8	I/O	ATAPI data
21	HDD7	I/O	ATAPI data
22	VDDH		
23	NRESET	I	ATAPI reset
24	MASTER	I/O	ATAPI master / slave selection
25	NINT0	O	System control interruption 0
26	NINT1	O	System control interruption 1
27	WAITDOC	O	System control wait control
28	NMRST	O	System control reset (Connect to TP302)
29	DASPST	I	DASP signal initializing (VSS connected)
30	VDD	-	Apply 3V
31	OSCO2	O	OPEN (Connect to TP140)
32	OSCI2	I	OPEN (Connect to TP303)
33	UATASEL	I	VSS connected
34	VSS	-	GND
35	PVSSDRAM		VSS connected
36	PVDDDRAM		VDD (2.7V) connected
37	CPUADR17	I	System control address
38	CPUADR16	I	System control address
39	VSS	-	GND
40	CPUADR15	I	System control address
41	CPUADR14	I	System control address
42	CPUADR13	I	System control address
43	CPUADR12	I	System control address
44	VDD	-	Apply 2.7V
45	CPUADR11	I	System control address

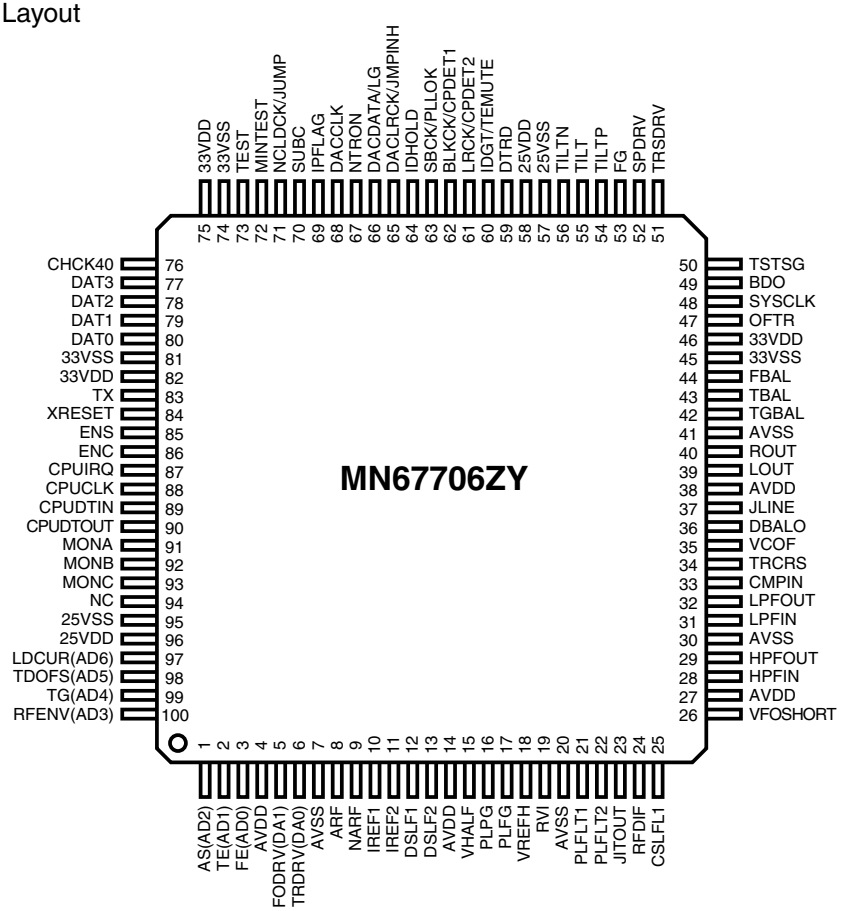
Pin NO.	Symbol	I/O	Function
46	CPUADR10	I	System control address
47	CPUADR9	I	System control address
48	CPUADR8	I	System control address
49	CPUADR7	I	System control address
50	CPUADR6	I	System control address
51	CPUADR5	I	System control address
52	CPUADR4	I	System control address
53	CPUADR3	I	System control address
54	CPUADR2	I	System control address
55	CPUADR1	I	System control address
56	VSS	-	GND
57	CPUADR0	I	System control address
58	NCS	I	System control chip selec
59	NWR	I	System control write
60	NRD	I	System control read
61	VDD	-	Apply 3V
62	CPUDT7	I/O	System control data
63	CPUDT6	I/O	System control data
64	PVPPDRAM	O	VSS connected
65	PTESTDRAM	I	VSS connected
66	PVDDDRAM		VDD (2.7V) connected
67	PVSSDRAM		VSS connected
68	CPUDT5	I/O	System control data
69	CPUDT4	I/O	System control data
70	CPUDT3	I/O	System control data
71	VSS	-	GND
72	CPUDT2	I/O	System control data
73	CPUDT1	I/O	System control data
74	CPUDT0	I/O	System control data
75	CLKOUT1	O	16.9/11.2/8.45MHz clock
76	VDD	-	Apply 3V
77	TEHLD	O	Mirror gate (Connect to TP141)
78	DTRD	O	Data part frequency control switch (Connect to TP304)
79	IDGT	O	Part CAPA switch (Connect to TP305)
80	BDO	I	RF dropout / BCA data of making to binary
81	CPDET2	I	Outer side CAPA detection
82	CPDET1	I	Side of surroundings on inside
83	VSS	-	GND
84	MMOD	I	VSS connected
85	NRST	I	System reset
86	VDD	-	Apply 3V
87	CLKOUT2	O	16.9MHz clock
88	SBCK/PLLOK	O	Frame mark detection
89	IDOHOLD	O	ID gate for tracking holding (Connect to TP307)
90	JMPINH	O	Jump prohibition

Pin NO.	Symbol	I/O	Function
91	LG	O	Land / group switch
92	NTRON	I	Tracking ON
93	DACDATA	O	Sereal output (Connect to TP148)
94	DACLRCK	O	L and R identification output (Connect to TP149)
95	DACCLK	I	Clock for serial output
96	IPFLAG	I	Interpolation flag input
97	BLKCK	I	Sub-code,Block clock input (VSS connected)
98	LRCK	I	L and R identification signal output (VSS connected)
99	VSS	-	GND
100	OSCI1	I	16.9MHz oscillation
101	OSCO1	O	16.9MHz oscillation
102	VDD	-	Apply 3V
103	PVSS	-	GND
104	PVDD	-	Apply 3V
105	P1	I/O	Terminal MASTER polarity switch input (VDD 3V connected)
106	P0	I/O	CIRC-RAM OVER/UNDER Interruption signal input (VDD 3V connected)
107	VSS	-	GND
108	SBCK	O	Sub-code, Clock output for serial input (Connect to TP306)
109	SUBC	I	Sub-code, Serial input
110	NCLDCK	I	Sub-code, Frame clock input
111	CHCK40	I	Read clock to DAT3~0 (Output of dividing frequency four from ADSC)
112	DAT3	I	Read data from DISC (Parallel output from ADSC)
113	DAT2	I	
114	DAT1	I	
115	DAT0		
116	VDD	-	Apply 3V
117	SCLOCK	I/O	Debugging serial clock (Not use) (270Ω pull up)
118	SDATA	I/O	Debugging serial data (Not use) (270Ω pull up)
119	MONI3	O	Internal goods title monitor (Connect to TP150-TP153)
120	MONI2	O	
121	MONI1	O	
122	MONI0	O	
123	VSS	-	GND
124	NEJECT	I	Eject detection
125	VDD	-	Apply 2.7V
126	NTRYCL	I	Tray close detection (Not use)
127	NDASP	I/O	ATAPI Drive active/ Slave connection I/O
128	NCS3FX	I	ATAPI host chip selec (Not use)
129	NCS1FX	I	ATAPI host chip selec (Not use)
130	VDD	-	Apply 3V
131	DA2	I/O	ATAPI host address
132	DA0	I/O	ATAPI host address (Not use)

Pin NO.	Symbol	I/O	Function
133	NPDIAG	I/O	ATAPI slave master diagnosis input
134	VSS	-	GND
135	DA1	I/O	ATAPI host address (Not use)
136	NIOCS16	O	ATAPI output of selection of width of host data bus
137	INTRQ	O	ATAPI host interruption output
138	VDD	-	Apply 3V
139	NDMACK	I	ATAPI host DMA response (Not use)
140	IORDY	O	ATAPI host ready output (Connect to TP157)
141	NIORD	I	ATAPI host read (Not use)
142	VSS	-	GND
143	NIOWR	I/O	ATAPI host writes
144	DMARQ	O	ATAPI host DMA request (Connect to TP159)

■ MN67706ZY (IC201) : ADSC

1.Terminal Layout



2.Pin Functions

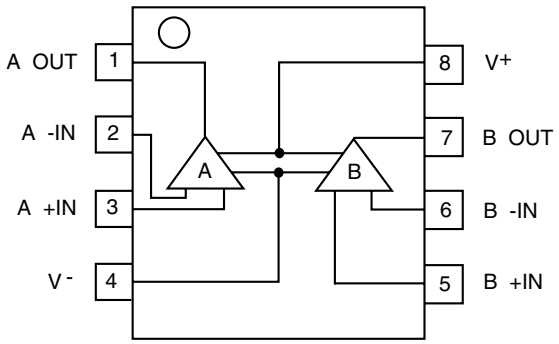
Pin No.	Symbol	I/O	Function
1	AS(AD2)	I	AS : Full adder signal(FEP)
2	TE(AD1)	I	Phase difference/3 beam tracking error(FEP)
3	FE(AD0)	I	Focus error(FEP)
4	AVDD	-	Apply 3.3V(For analog circuit)
5	FODRV(DA1)	O	Focus drive(DRVIC)
6	TRDRV(DA0)	O	Tracking drive(DRVIC)
7	AVSS	-	Ground(For analog circuit)
8	ARF	I	Equivalence RF+(FEP)
9	NARF	I	Equivalence RF-(FEP)
10	IREF1	I	Reference current1(For DBAL)
11	IREF2	I	Reference current2(For DBAL)
12	DSLF1	I/O	Connect to capacitor1 for DSL
13	DSLF2	I/O	Connect to capacitor2 for DSL
14	AVDD	-	Apply 3.3V(For analog circuit)
15	VHALF	I	Reference voltage 1.65+-0.1V(FEP)
16	PLPG	-	Not use(PLL phase gain setting resistor terminal)
17	PLFG	-	Not use(PLL frequency gain setting resistor terminal)
18	VREFH	I	Reference voltage 2.2V+-0.1V(FEP)
19	RVI	I/O	Connect to resistor for VREFH reference current source
20	AVSS	-	Ground(For analog circuit)
21	PLFLT1	O	Connect to capacitor1 for PLL
22	PLFLT2	O	Connect to capacitor2 for PLL
23	JITOUT	I/O	Output for jitter signal monitor
24	RFDIF	I	Not use
25	CSLFL1	I/O	Pull-up to VHALF

Pin No.	Symbol	I/O	Function
26	VFOSHORT	O	VFO short output
27	AVDD	-	Apply 3.3V(For analog circuit)
28	HPFIN	I	Pull-up to VHALF
29	HPFOUT	O	Connect to TP208
30	AVSS	-	Ground(For analog circuit)
31	LPFIN	I	Pull-up to VHALF
32	LPFOUT	O	Not use
33	CMPIN	I	Connect to TP210
34	TRCRS	I	Input signal for track cross formation
35	VCOF	I/O	JFVCO control voltage
36	DBALO	O	DSL balance adjust output
37	JLINE	O	J-line setting output(FEP)
38	AVDD	-	Apply 3.3V(For analog circuit)
39	LOUT	O	Connect to TP203 (Analog audio left output)
40	ROUT	O	Connect to TP204 (Analog audio right output)
41	AVSS	-	Ground(For analog circuit)
42	TGBAL	O	Tangential balance adjust(FEP)
43	TBAL	O	Tracking balance adjust(FEP)
44	FBAL	O	Focus balance adjust(FEP)
45	33VSS	-	Ground(For I/O)
46	33VDD	-	Apply 3.3V(For I/O)
47	OFTR	I	Off track signal
48	SYSCLK	I	16.9344MHz system clock input(ODC)
49	BDO	I	Drop out(FEP)
50	TSTSG	O	Calibration signal(FEP)
51	TRSDRV	O	Traverse drive(DRVIC)
52	SPDRV	O	Spindle drive output(DRVIC)
53	FG	I	FG signal input (Spindle motor driver)
54	TILTP	O	Connect to TP205
55	TILT	O	Connect to TP206
56	TILTN	O	Connect to TP207
57	25VSS	-	Ground(For internal core)
58	25VDD	-	Apply 2.5V(For internal core)
59	DTRD	I	Data read control signal(ODC)
60	IDGT/TEMUTE	I	Pull-down to Ground
61	LRCK/CPDET2	O	LR channel data strobe(ODC)/
62	BLKCK/CPDET1	O	CD sub code synchronous signal(ODC)/
63	SBCK/PLLOK	I	CD sub code data shift clock(ODC)/PLL pull-in OK signal input
64	IDHOLD	I	Pull-down to Ground
65	DACLRCK/JMPINH	I	1bit DAC-LR channel data strobe(ODC)/
66	DACDATA/LG	I	CD 1bit DAC channel data(ODC)
67	NTRON	O	L : Tracking ON(ODC)
68	DACCLK	O	1bit DAC channel data shift clock(ODC)
69	IPFLAG	O	CIRC error flag(ODC)
70	SUBC	O	CD sub code(ODC)
71	NCLDCK/JUMP	O	CD sub code data frame clock(ODC)/DVD JUMP signal(ODC)
72	MINTEST	I	Pull-down to Ground(For MINTEST)
73	TEST	I	Pull-down to Ground(For TEST)
74	33VSS	-	Ground(For I/O)
75	33VDD	-	Apply 3.3V(For I/O)
76	CHCK40	O	Clock for SRDATA(ODC)
77	DAT3	O	SRDATA3(ODC)
78	DAT2	O	SRDATA2(ODC)
79	DAT1	O	SRDATA1(ODC)
80	DAT0	O	SRDATA0(ODC)

Pin No.	Symbol	I/O	Function
81	33VSS	-	Ground(For I/O)
82	33VDD	-	Apply 3.3V(For I/O)
83	TX	O	Digital audio interface
84	XRESET	I	Reset input (System control)
85	ENS	I	Servo DSC serial I/F chip select (System control)
86	ENC	I	CIRC serial I/F chip select (System control)
87	CPUIRQ	O	Interrupt request (System control)
88	CPUCLK	I	Syscon serial I/F clock (System control)
89	CPUDTIN	I	Syscon serial I/F data input (System control)
90	CPUDTOUT	O	Syscon serial I/F data output (System control)
91	MONA	O	Connect to TP226 (Monitor terminal A)
92	MONB	O	Connect to TP225 (Monitor terminal A)
93	MONC	O	Connect to TP224 (Monitor terminal A)
94	NC	O	Connect to TP211
95	25VSS	-	Ground(For internal core)
96	25VDD	-	Apply 2.5V(For internal core)
97	LDCUR(AD6)	I	
98	TDOFS(AD5)	I	
99	TG(AD4)	I	Tangential phase difference(FEP)
100	RFENV(AD3)	I	RF envelope input(FEP)

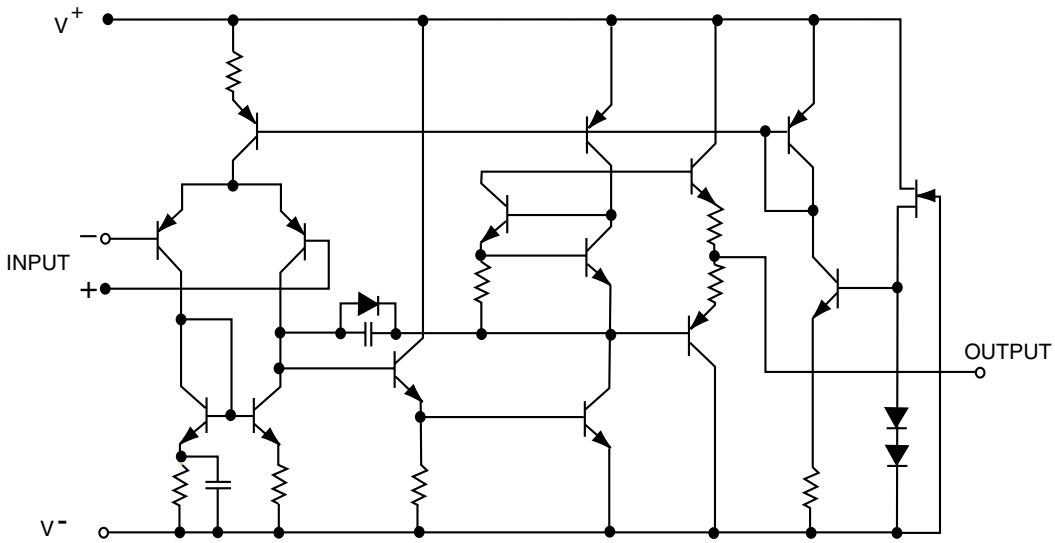
■ NJM4580D (IC741, IC751) : LPF, Mic and H.phone Amp.

1.Terminal layout



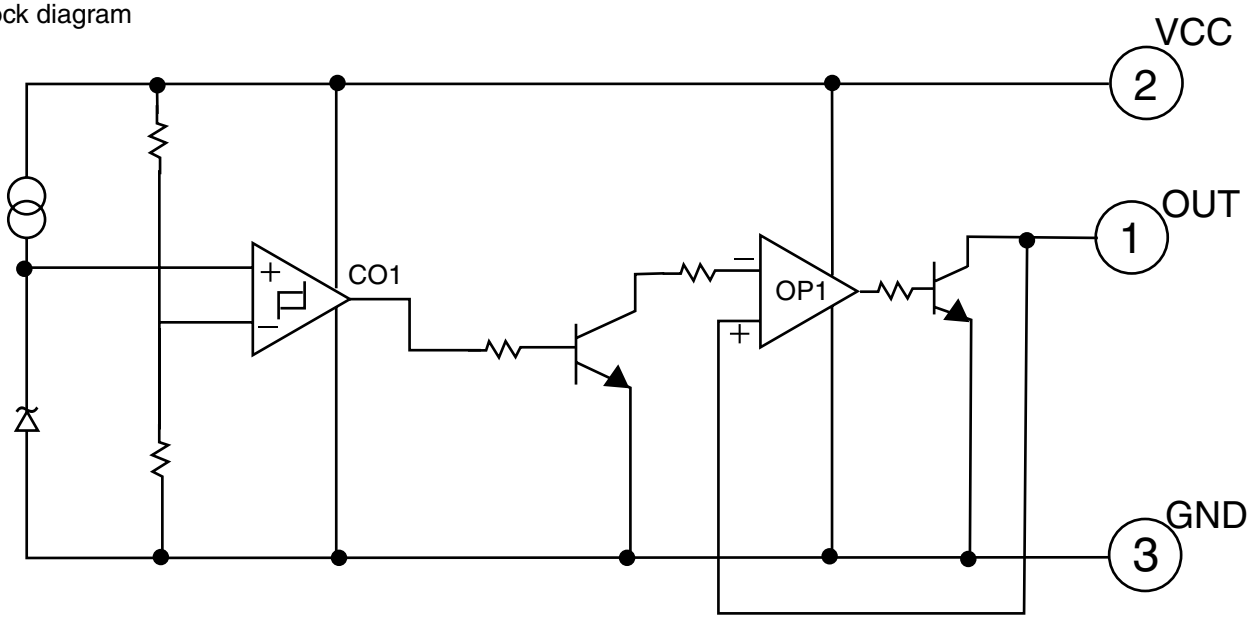
(TOP VIEW)

2.Block diagram



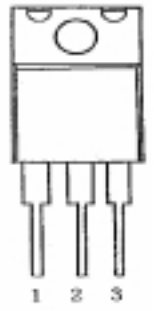
■ IC-PST9140-T (IC702) : Reset IC

1. Block diagram



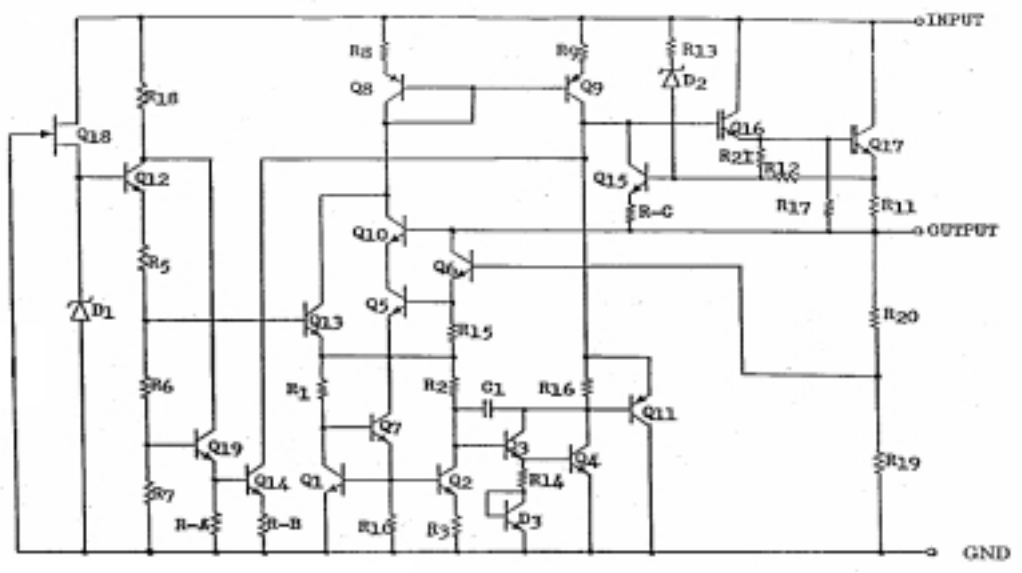
■ NJM78M05FA (IC953) : Regulator

1. Terminal layout

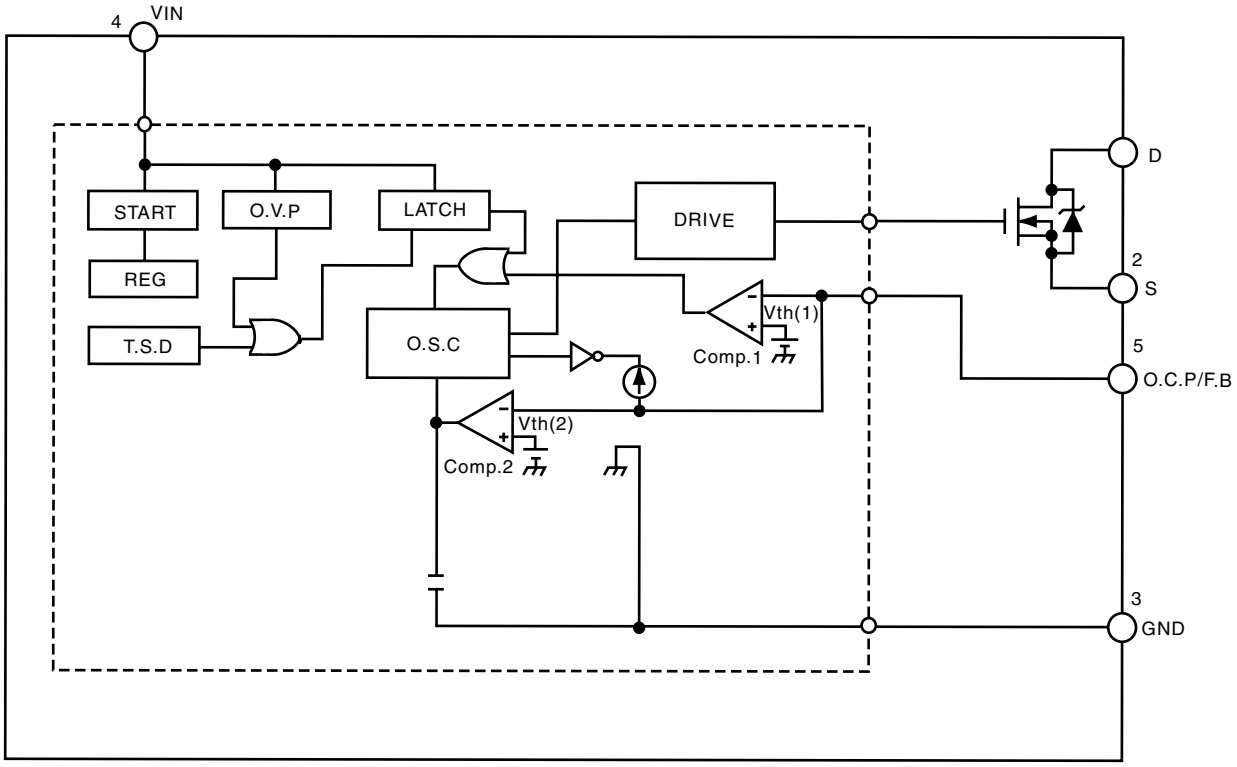


1. INPUT
2. GND
3. OUTPUT

2. Block diagram

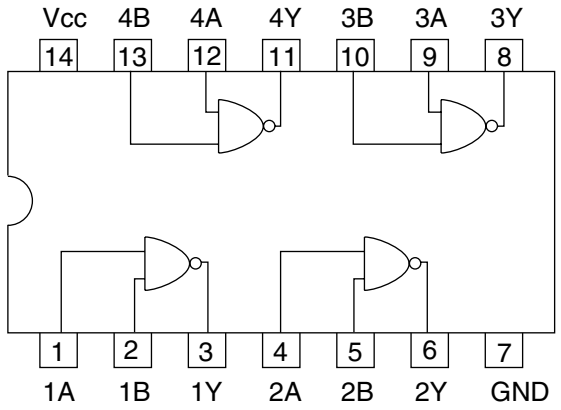


STR-G6651 (IC901) : Switch regulator



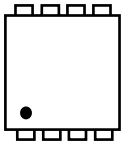
■ TC74VHC00FT-X (IC503) : Wright timing control

1.Terminal layout / Block diagram

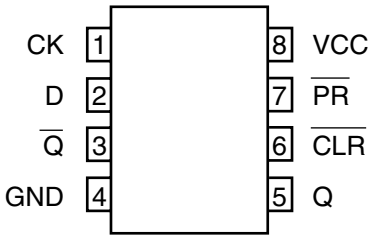


■ TC7WH74FU-X (IC374) : Clock buffer

1.Terminal layout

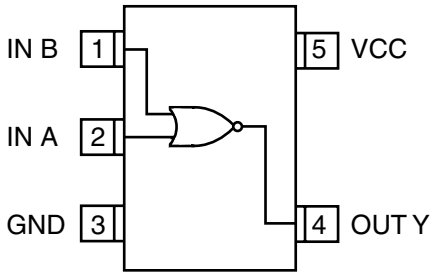


2.Block diagram



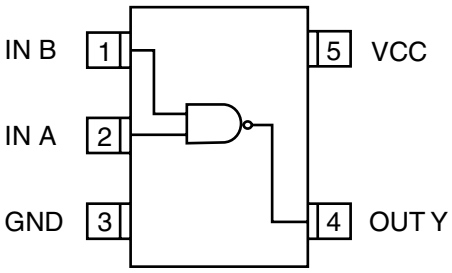
■ TC7SH32FU-X (IC312) : Timing control

1.Terminal layout



■ TC7SH08FU-X (IC311) : Timing control

1.Terminal layout



■ ZIVA3-PE0 (IC501) : AV Decoder

ZIVA3-PEO (1/5)

Pin No.	Symbol	I/O	Function
1	PIO0	I/O	Programmable I/O pins.Input mode after reset.
2	HDATA0	I/O	8-bit bi-derectional host data bus. writes data to the decoder Code FIFO via HDATA. MSB of the 32-bit word is written first. The host also reads and writes the decoder internal registers and local SDRAM via HDATA.
3	HDATA1		
4	HDATA2		
5	VDD-3.3	-	3.3-V supply voltage for I/O signals.
6	HDATA3	I/O	8-bit bi-derectional host data bus. writes data to the decoder Code FIFO via HDATA. MSB of the 32-bit word is written first. The host also reads and writes the decoder internal registers and local SDRAM via HDATA.
7	VSS	-	Ground for core logic and I/O signals.
8	HDATA4	I/O	8-bit bi-derectional host data bus. writes data to the decoder Code FIFO via HDATA. MSB of the 32-bit word is written first. The host also reads and writes the decoder internal registers and local SDRAM via HDATA.
9	HDATA5		
10	HDATA6		
11	HDATA7		
12	VDD-2.5	-	2.5-V supply voltage for core logic.
13	$\overline{\text{RESET}}$	I	Hardware reset. An external device asserts $\overline{\text{RESET}}$(active LOW) to execute a decoder hardware reset. To ensure proper initialization after power is stable,assert RESET for at least 20 ms.
14	VSS	-	Ground for core logic and I/O signals.
15	$\overline{\text{WAIT/DTACK}}$	O	Transfer not complate / data acknowledge. Active LOW to indicate host initiated transfer is not complate.$\overline{\text{WAIT}}$ is asserted after the falling edge of $\overline{\text{CS}}$ and reasserted when decoder is ready to complate transfer cycle. Open drain signal, must be pulled-up via 1kW to 3.3 volts. Driven high for 10 ns before tristate.
16	$\overline{\text{INT}}$	O	Host interrupt. Open drain signal, must be pulled-up via 4.7kW to 3.3 volts. Driven high for 10 ns before tristate.
17	VDD-3.3	-	3.3-V supply voltage for I/O signals.
18	NC	O	No Connection
19	VSS	-	Ground for core logic and I/O signals.
20	NC	O	No Connection
21	PIO11	I/O	Programmable I/O pins. Input mode after reset
22	PIO12		
23	PIO13		
24	PIO14		
25	PIO15		
26	PIO16		
27	VDD-3.3	-	3.3-V supply voltage for I/O signals.
28	PIO17	I/O	Programmable I/O pins. Input mode after reset
29	VSS	-	Ground for core logic and I/O signals.
30	PIO18	I/O	Programmable I/O pins. Input mode after reset
31	PIO19	I/O	Programmable I/O pins. Output mode after reset
32	PIO20		
33	PIO21		
34	PIO22		
35	PIO23		
36	VDD-3.3	-	3.3-V supply voltage for I/O signals.
37	PIO24	I/O	Programmable I/O pins. Output mode after reset
38	VSS	-	Ground for core logic and I/O signals.
39	PIO25	I/O	Programmable I/O pins. Output mode after reset
40	VDD-2.5	-	2.5-V supply voltage for core logic.
41	PIO26	I/O	Programmable I/O pins. Output mode after reset
42	VSS	-	Ground for core logic and I/O signals.

ZIVA3-PEO (2/5)

Pin No.	Symbol	I/O	Function
44 45 46	PIO28 PIO29 PIO30	I/O	Programmable I/O pins. Output mode after reset
47	VDD-3.3	-	3.3-V supply voltage for I/O signals.
48	PIO31	I/O	Programmable I/O pins. Output mode after reset
49	VSS	-	Ground for core logic and I/O signals.
50 51	NC	O	No Connection
52	PIO1	I/O	Programmable I/O pins. Input mode after reset
53	MDATA15	I/O	Memory data
54	MDATA0	I/O	Memory data
55	VDD-3.3	-	3.3-V supply voltage for I/O signals.
56	MDATA14	I/O	Memory data.
57	VSS	-	Ground for core logic and I/O signals.
58 59 60	MDATA1 MDATA13 MDATA2	I/O	Memory data.
61	VDD-3.3	-	3.3-V supply voltage for I/O signals.
62	MDATA12	I/O	Memory data.
63	VSS	-	Ground for core logic and I/O signals.
64	MDATA3	I/O	Memory data.
65	VDD-2.5	-	2.5-V supply voltage for core logic.
66	MDATA11	I/O	Memory data.
67	VSS	-	Ground for core logic and I/O signals.
68	MDATA4	I/O	Memory data.
69	VDD-3.3	-	3.3-V supply voltage for I/O signals.
70	MDATA10	I/O	Memory data.
71	VSS	-	Ground for core logic and I/O signals.
72 73 74	MDATA5 MDATA9 MDATA6	I/O	Memory data.
75	VDD-3.3	-	3.3-V supply voltage for I/O signals.
76	MDATA8	I/O	Memory data.
77	VSS	-	Ground for core logic and I/O signals.
78	MDATA7	I/O	Memory data.
79	LDQM	O	SDRAM LDQM.
80	UDQM	O	SDRAM UDQM.
81	VDD-3.3	-	3.3-V supply voltage for I/O signals.
82	$\overline{\text{MWE}}$	O	SDRAM write enable. Decoder asserts active LOW to request a write operation to the SDRAM array.
83	VSS	-	Ground for core logic and I/O signals.
84	SD-CLK	O	SDRAM system clock.
85	$\overline{\text{SD-CAS}}$	O	Active LOW SDRAM column address.
86	$\overline{\text{SD-RAS}}$	O	Active LOW SDRAM row address.
87	VDD-3.3	-	3.3-V supply voltage for I/o signals.
88	$\overline{\text{SD-CS1}}$	O	Active LOW SDRAM bank select.
89	VSS	-	Ground for core logic and I/O signals.
90	SD-CS0	O	Active LOW SDRAM bank select.
91	VDD-2.5	-	2.5-V supply voltage for core logic.
92	NC	O	No Connection.
93	VSS	-	Ground for core logic and I/O signals.
94	NC	O	No Connection.
95	VDD-3.3	-	3.3-V supply voltage for I/O signals.
96	MADDR9	O	Memory address.
97	VSS	-	Ground for core logic and I/O signals.
98	MADDR11	O	Memory address.

ZIVA3-PEO (3/5)

Pin No.	Symbol	I/O	Function
99	MADDR8	O	Memory address.
100	MADDR10		
101	VDD-3.3	-	3.3-V supply voltage for I/O signals.
102	MADDR7	O	Memory address.
103	VSS	-	Ground for core logic and I/O signals.
104	MADDR0	O	Memory address.
105	MADDR6		
106	MADDR1		
107	VDD-3.3	-	3.3-V supply voltage for I/O signals.
108	MADDR5	O	Memory address.
109	VSS	-	Ground for core logic and I/O signals.
110	MADDR2	O	Memory address.
111	MADDR4		
112	MADDR3		
113	VDD-3.3	-	3.3-V supply voltage for I/O signals.
114	NC	O	No Connection
115	VSS	-	Ground for core logic and I/O signals.
116	NC	O	No Connection
117	VDD-2.5	-	2.5-V supply voltage for core logic.
118	NC	O	No Connection
119	VSS	-	Ground for core logic and I/O signals.
120	NC	O	No Connection
121			
122			
123	VDD-3.3	-	3.3-V supply voltage for I/O signals.
124	NC	O	No Connection
125	VSS	-	Ground for core logic and I/O signals.
126	NC	O	No Connection
127			
128	RESERVED	O	Open drain signal, must be pulled-up via 4.7kW to 3.3 volts.
129	PIO2	I/O	Programmable I/O pins. Input mode after reset.
130	NC	O	No Connection
131	RESERVED	I	Tie to VSS or VDD-3.3
132			
133	PIO3	I/O	Programmable I/O pins. Input mode after reset.
134	VDD-3.3	-	3.3-V supply voltage for I/O signals.
135	RESERVED	I	Tie to VSS or VDD-3.3
136	VSS	-	Ground for core logic and I/O signals.
137	RESERVED	I	Tie to VSS or VDD-3.3
138	PIO4	I/O	Programmable I/O pins. Input mode after reset.
139	RESERVED	I	Tie to VSS or VDD-3.3
140			
141	PIO5	I/O	Programmable I/O pins.Input mode after reset.
142	VDATA0	O	Video data bus. Byte serial CbYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA
143	VDATA1		
144	VDD-2.5	-	2.5-V supply voltage for core logic.
145	VDATA2	O	Video data bus. Byte serial CbYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA
146	VSS	-	Ground for core logic and I/O signals.
147	PIO6	I/O	Programmable I/O pins. Input mode after reset.
148	VDATA3	O	Video data bus. Byte serial CbYCrY data synchronous with VCLK. At power-up, the decoder does not drive VDATA. During boot-up, the decoder uses configuration parameters to drive or 3-state VDATA

ZIVA3-PEO (4/5)

Pin No.	Symbol	I/O	Function
149	VDD-3.3	-	3.3-V supply voltage for I/O signals.
150	VDATA4	O	Video data buses for byte sequential CbYCrY data. The decoder does not run VDATA during the power up procedure. However, during booting the decoder uses operational configuration parameters or 3-state VDATA.
151	VSS	-	Ground for core logic and I/O signals.
152	VDATA5	O	Video data buses for byte sequential CbYCrY data. The decoder does not run VDATA during the power up procedure. However, during booting the decoder uses operational configuration parameters or 3-state VDATA.
153	PIO7	I/O	Programmable I/O pin. Input mode after resetting.
154 155	VDATA6 VDATA7	O	Video data buses for byte sequential CbYCrY data. The decoder does not run VDATA during the power up procedure. However, during booting the decoder uses operational configuration parameters or 3-state VDATA.
156	PIO8	I/O	Programmable I/O.
157	$\overline{\text{HSYNC}}$	I/O	pins. Input mode after reset. Horizontal sync. The decoder begins outputting pixel data for a new horizontal line
158	$\overline{\text{VSYNC}}$	I/O	after the falling (active) edge of $\overline{\text{HSYNC}}$. Vertical sync.Bi-directional, the decoder outputs the top border of a new field on the first $\overline{\text{HSYNC}}$ aftre the falling edge of $\overline{\text{VSYNC}}$. $\overline{\text{VSYNC}}$ can accept vertical synchronization or top/bottom field notification from an external source.
159	DA-IEC	O	(VSYNC HIGH = bottom field. VSYNC LOW = Top field)
160	VDD-3.3	-	Bistream data in IEC-1937 or PCM data out in IEC-958 format.
161	DA-DATA0	O	3.3-V supply voltage for I/O signals.
162	VSS	-	PCM data out, eight channels. Serial audio samples relative to DA-BCK clock.
163 164 165	DA-DATA1 DA-DATA2 DA-DATA3	O	Ground for core logic and I/O signals. PCM data out, eight channels. Serial audio samples relative to DA-BCK clock.
166	DA-LRCK	O	PCM left-right clock. Identifies the channel for each audio sample. the polarity is
167	DA-BCK	O	programmable. PCM bit clock. Divided by 8 from DA-XCK can be either 48 or 32 times the sampling
168	VDD-2.5	-	clock.
169	DA-XCK	I/O	2.5-V supply voltage for core logic. Audio master frequency clock. Used to generate DA-BCK and DA-LRCK. DA-XCK can
170	VSS	-	be eigher 384 or 256 times the sampling frequency.
171	DAI-DATA	I	Ground for core logic and I/O signals.
172	DAI-LRCK	I	PCM input data. two channels. Serial audio samples relative to DAI-BCK clock.
173	DAI-BCK	I	PCM input left-right clock.
174	PIO9	I/O	PCM input bit clock.
175	CLKSEL	I	Programmable I/O pins. Input mode after reset.
176	A-VDD	-	Clock Select: Internal = VDD, External = VSS
177	VCLK	I	3.3-V analog supply voltage.
178	SYSCLK	I	Video clock. Clocks out data on input. VDATA7.Clock is typically 27 MHz. System clock.Decoder requires external 27 MHz TTL oscilator.
179	A-VSS	-	Drive with the same 27-MHz as VCK.
180	DVD-DATA0 /CD-DATA	I	Analog ground for PLL Serial CD data. This pin is shared with DVD compressed data DVD-DATA0.
181	VDD-3.3	-	
182	DVD-DATA1 /CD-LRCK	I	3.3-V supply voltage for I/O signals. Programmable polarity 16-bit word synchronization to the decoder
183	VSS	-	(right channel HIGH). This pin is shared with DVD compressed data DVD-DATA1.
184	DVD-DATA2 /CD-BCK	I	Ground for core logic and I/O signals. CD bit clock. Decoder accept multiple BCK rates. This pin is shared with DVD
185	DVD-DATA3 /CD-C2PO	I	compressed data DVD-DATA2. Asserted HIGH indicates a corrupted byte.Decoder keeps the previous valid picture on-screen unit the next valid picture is decoded. This pin is shares with DVD compressed data DVD-DATA3.

ZIVA3-PEO (5/5)

Pin No.	Symbol	I/O	Function
186 187 188 189	DVD-DATA7 /CDG-SCLK DVD-DATA6 /CDG-SOS1 DVD-DATA5 /CDG-VFSY DVD-DATA4 /CDG-SDATA	I	DVD parallel compressed data from DVD DSP. When DVD DSP sends 32-bit words, it must write the MSB first. CDG-SDATA:CD+G (Subcode) Data.Indicates serial subcode data input. CDG-VSFY:CD+G (Subcode)Frame Sync. Indicates frame-start or composite synchronization input. CDG-SOS1:CD+G (Subcode) Block Sync.Indicates block-start synchronization input. CDG-SCLK: CD+G(Subcode)Clock. Indicates subcode data clock input or output.
190	PIO10	I/O	Programmable I/O pins. Input mode after reset.
191	VREQUEST	O	Video request. Decoder asserts VREQUEST to indicate that the video input buffer has available space.Polarity is programmable.
192	VSTROBE	I	Video strobe. Programmable dual mode pulse. Asynchronous and synchronous. In Asynchronous mode, an external source pulses VSTROBE to indicate data is ready for transfer. In synchronous mode VSTROBE clock data.
193	VDD-3.3	-	3.3-V supply voltage for I/O signals.
194	NC	O	No Connection
195	VSS	-	Ground for core logic and I/O signals.
196	V-DACK	I	In synchronous mode, Video data acknowledge. Asserted when DVD data is valid.Polarity is programmable.
197	VDD-2.5	-	2.5-V supply voltage for core logic.
198	RESERVED	I	Tie to VSS or VDD-3.3
199	VSS	-	Ground for core logic and I/O signals.
200	ERROR	I	Error in input data. If ERROR signal is not available from the DSP it must be grounded.
201	HOST8SEL	I	Always Ttie to VDD-3.3
202 203 204	HADDR0 HADDR1 HADDR2	I	Host address bus. 3-bit address bus selects one of eight host interface registers.
205	DTACKSEL	I	Tie HIGH to select $\overline{\text{WAIT}}$ signal, LOW to select $\overline{\text{DTACK}}$ signal (Motorola 68K mode).
206	$\overline{\text{CS}}$	I	Host chip select.Host asserts CS to select the decoder for a read or write operation.The falling edge of this signal triggers the read or write operation.
207	R/$\overline{\text{W}}$	I	Read/write strobe in M mode. write strobe in I mode.Host asserts R/$\overline{\text{W}}$ LOW to select write and LOW to select read.
208	$\overline{\text{RD}}$	I	Read strobe in I mode. Must be held HIGH in M Mode

XV-521BK/523GD
XV-525BK/421BK

JVC

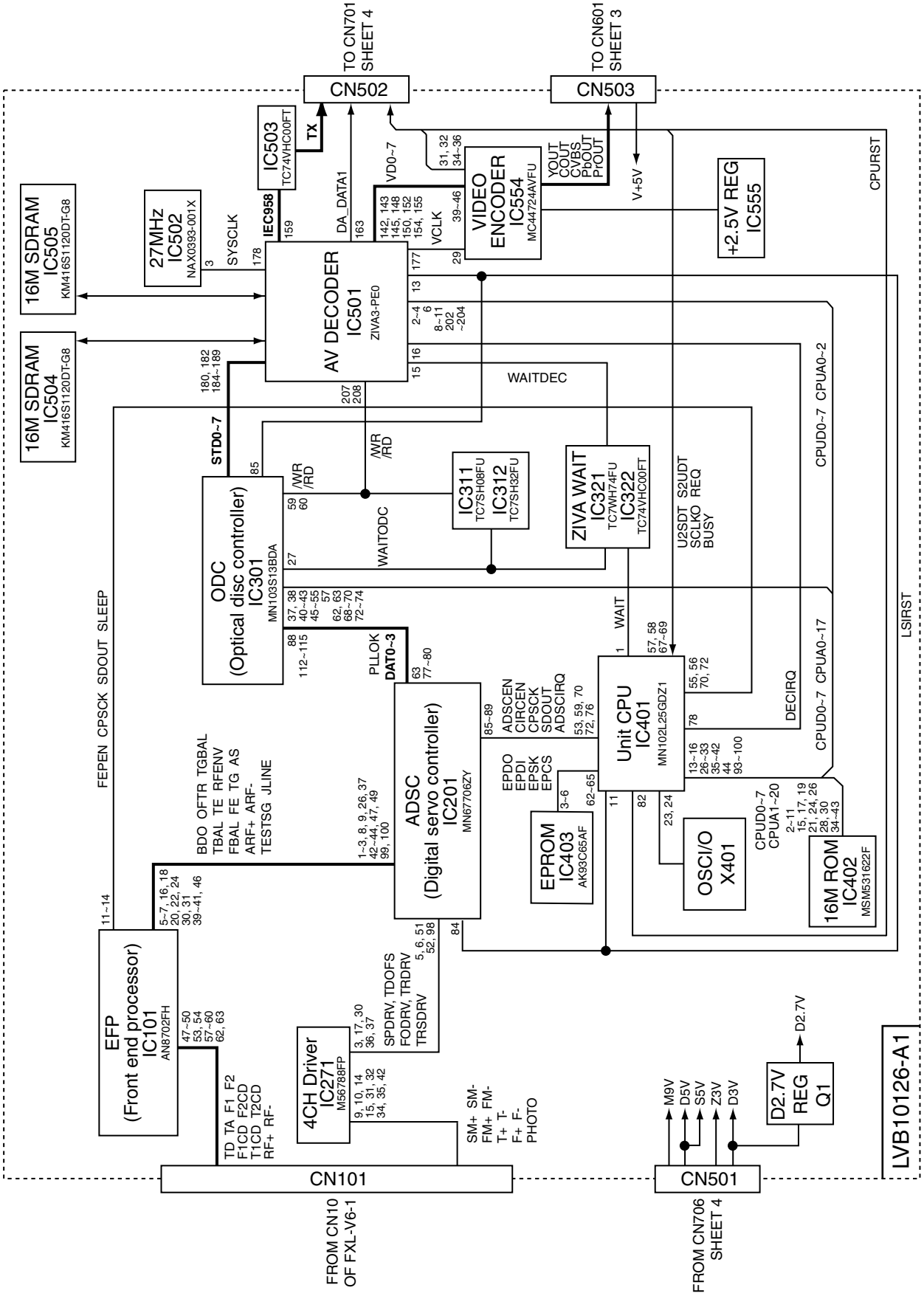
VICTOR COMPANY OF JAPAN, LIMITED
OPTICAL DISC BUSINESS DIV. PERSONAL & MOBILE NETWORK BUSINESS UNIT
AV & MULTIMEDIA COMPANY 1644, Shimotsuruma, Yamato, Kanagawa 242-8514, Japan

No.20836

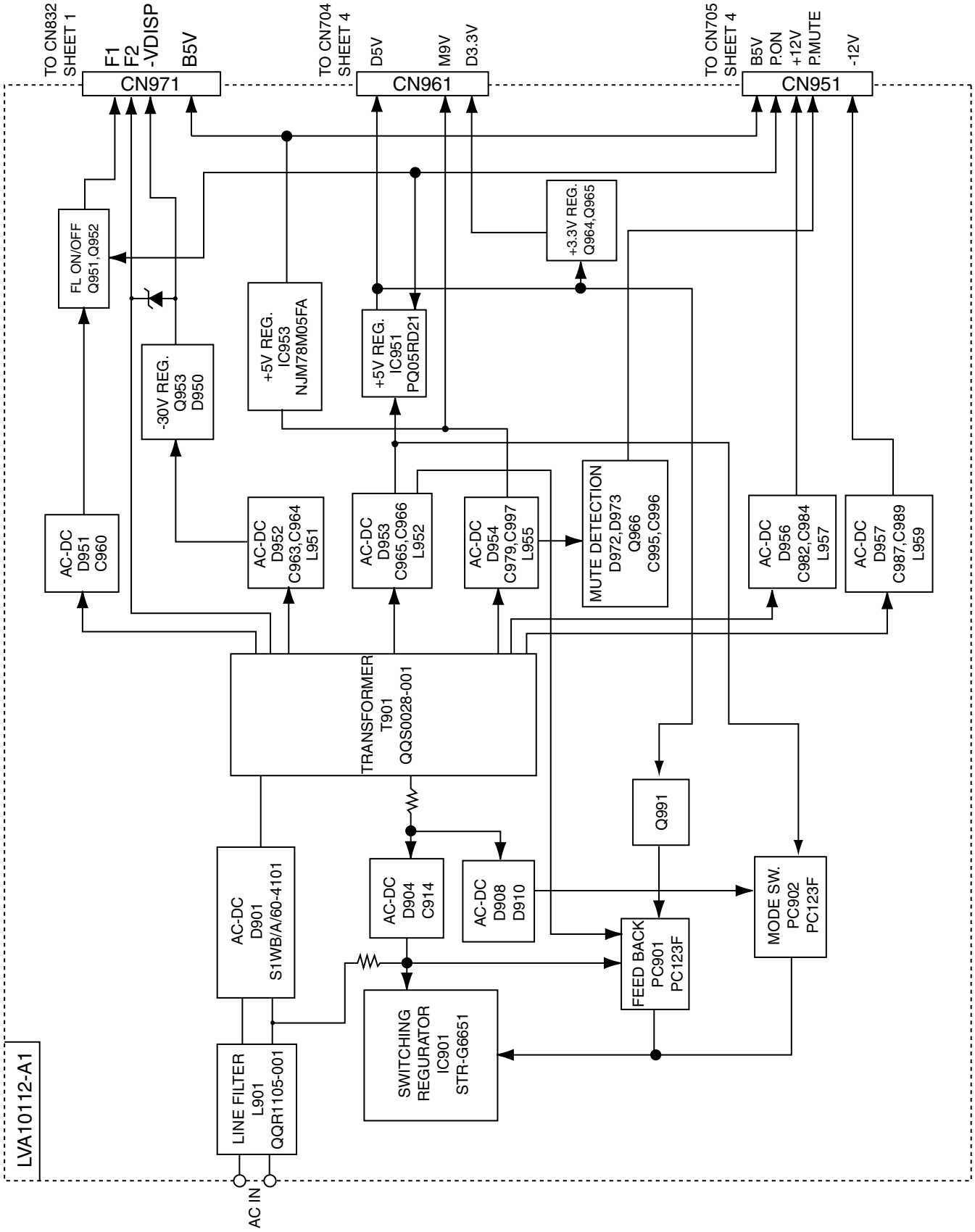
Printed in Japan
2000 06 (S)

Block diagrams

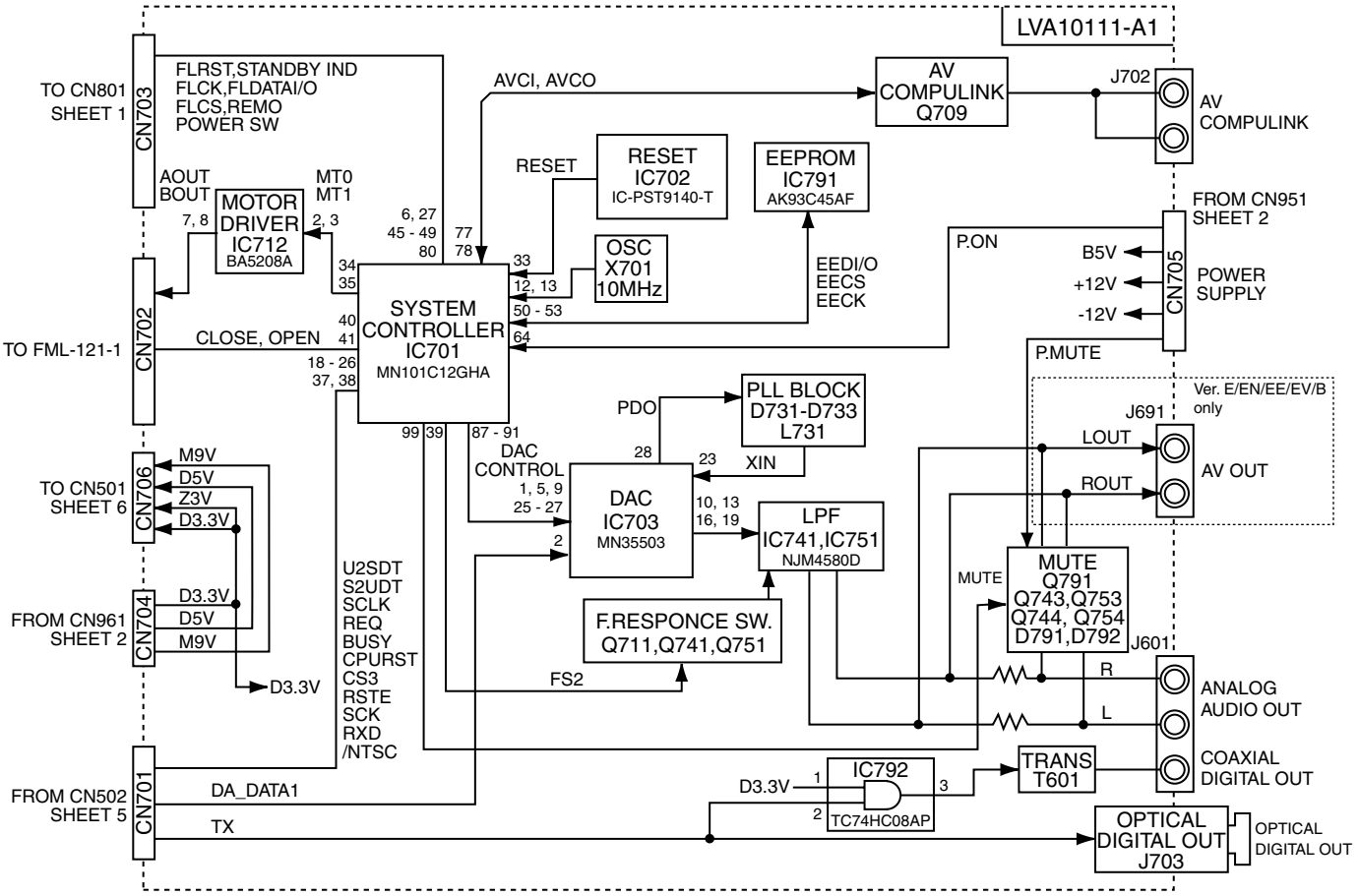
■ DVD Servo control and DSP section (SHEET 5,6)



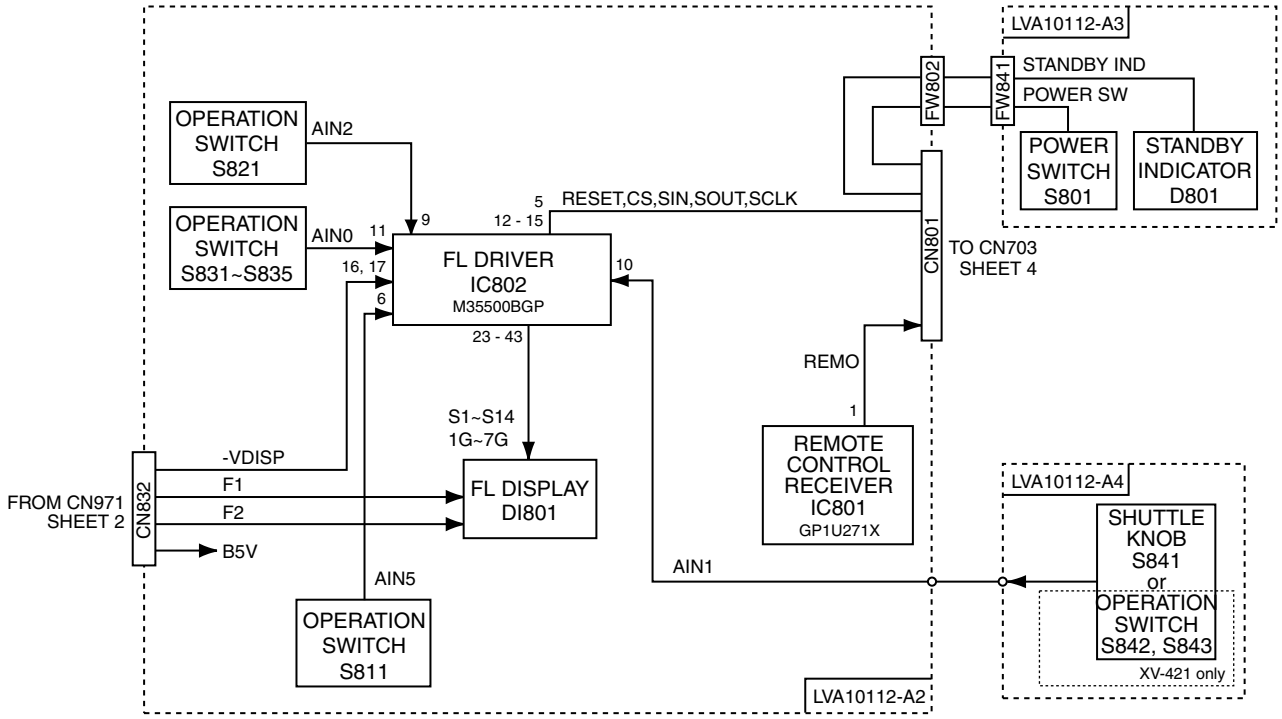
■ DC Regurator section (SHEET 2)



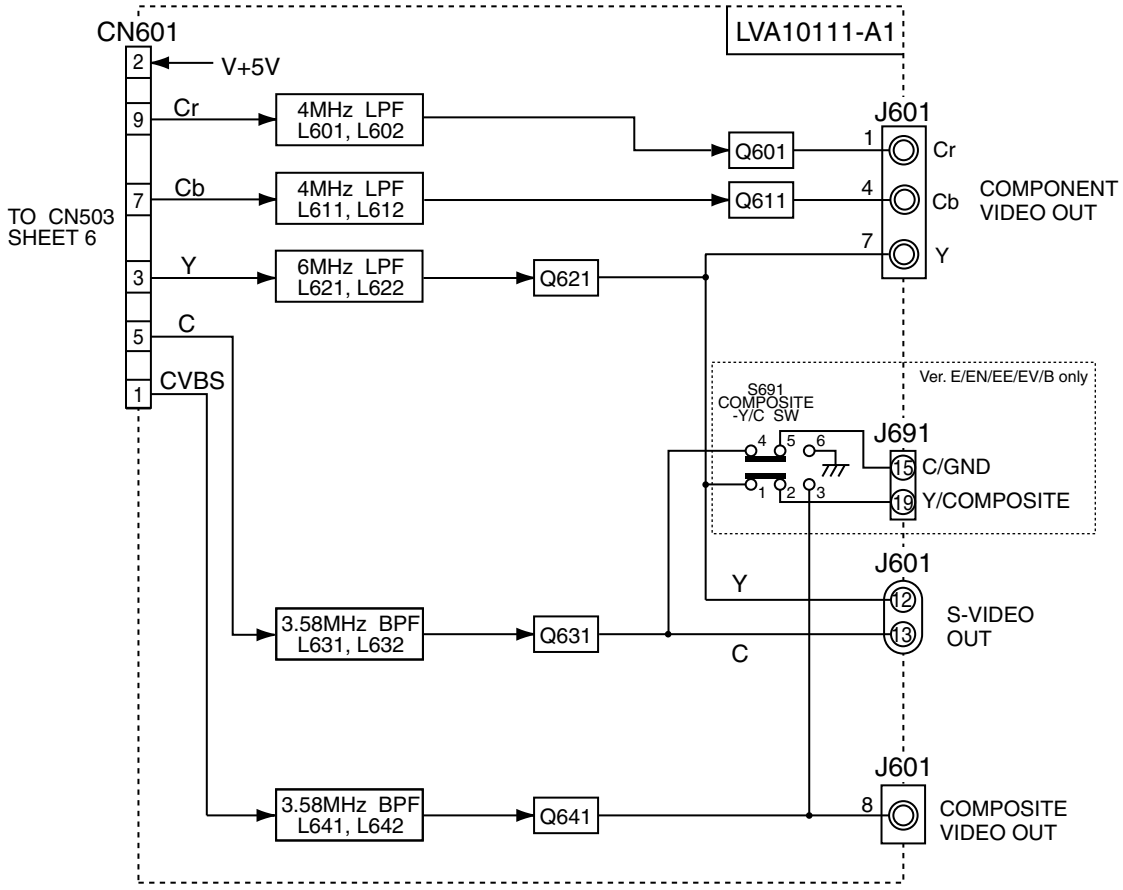
■ System control and Audio out section (SHEET 4)



■ FL Driver section (SHEET 1)

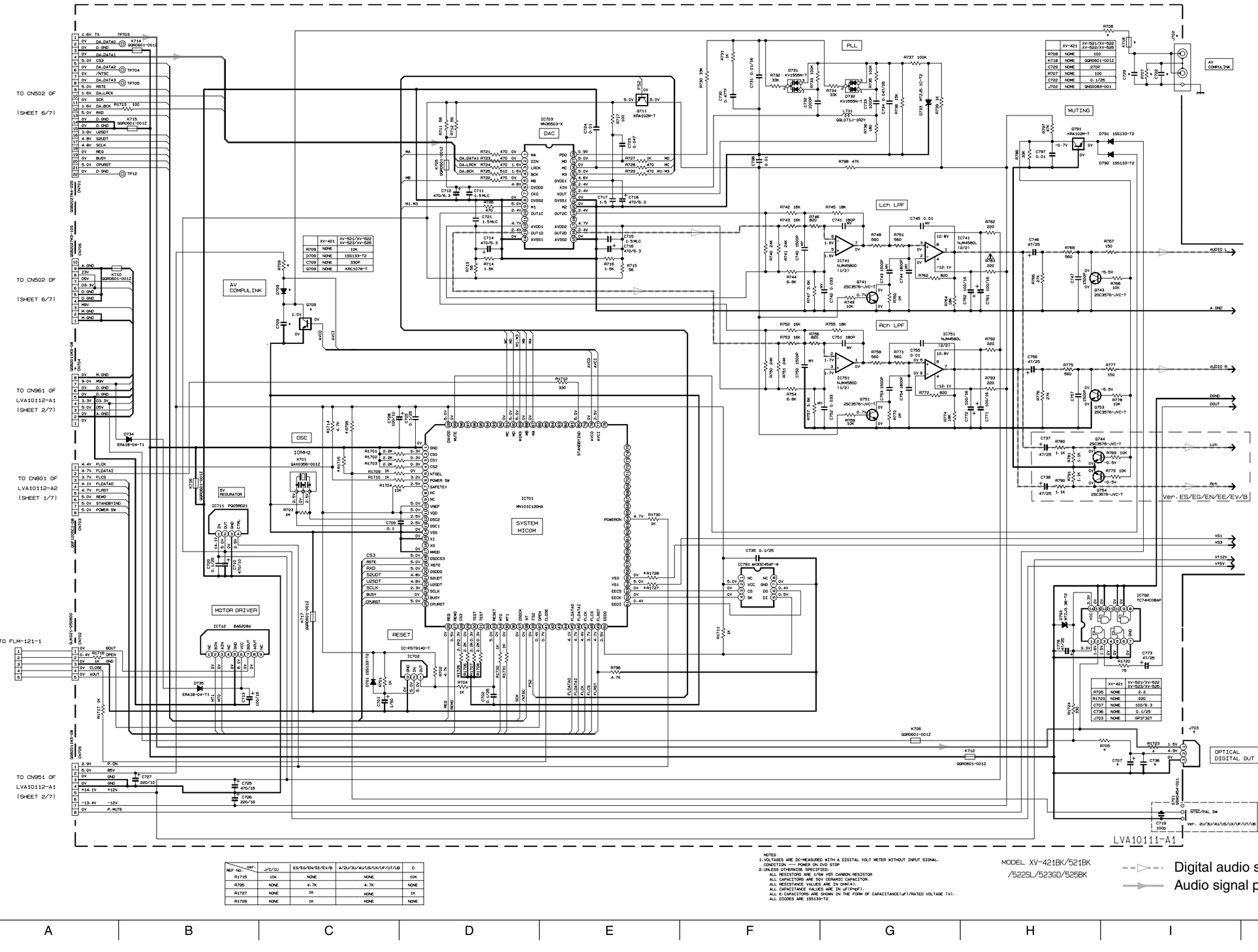


■ Video out section (SHEET 3)



Standard schematic diagrams

■ System control circuit



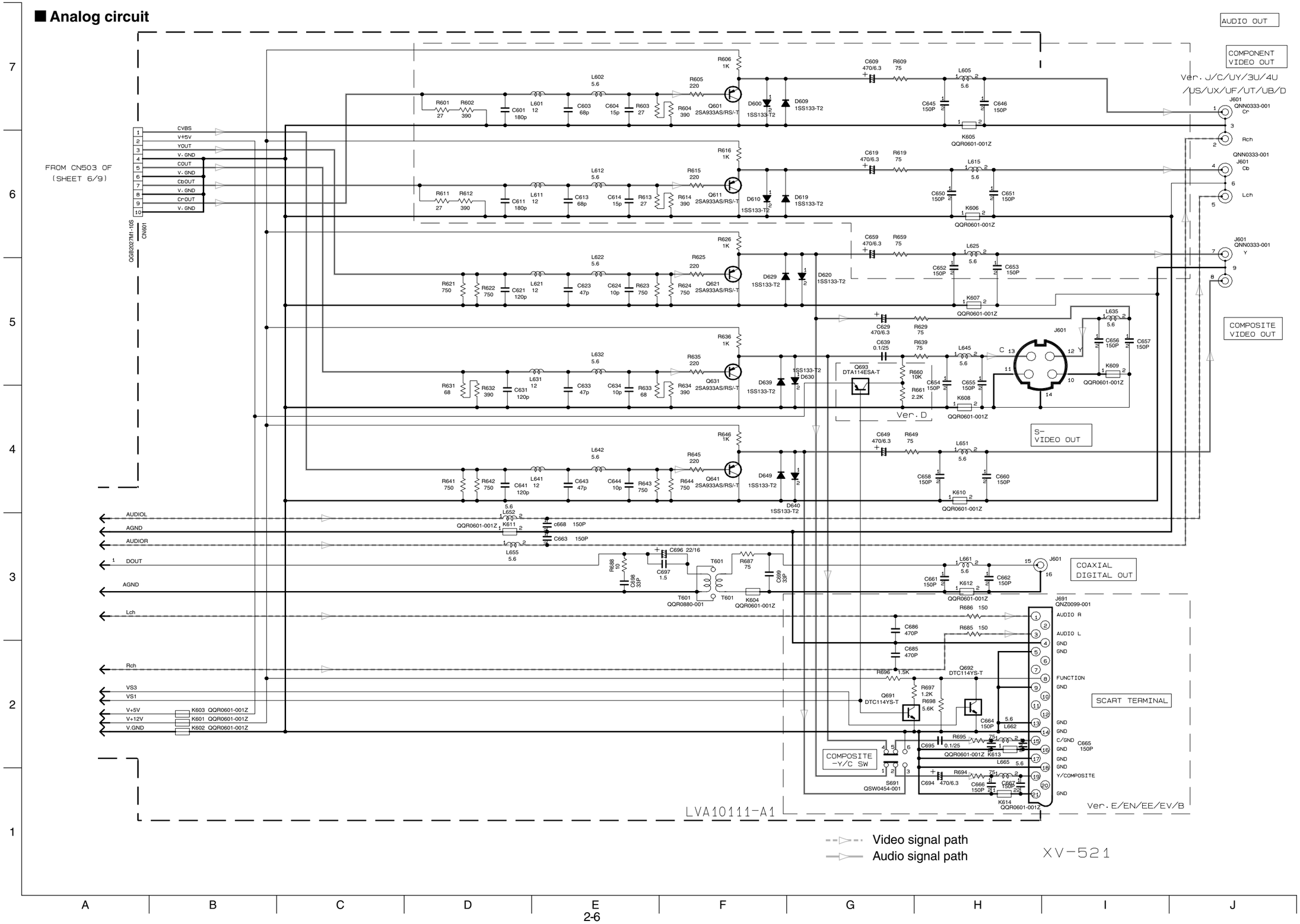
REF NO. \ ver.	J/C/1U	ES/EG/EN/EE/EV/B	A/2U/3U/4U/US/UX/UF/UT/UB	D
R1715	10k	NONE	NONE	10K
R795	NONE	4.7K	4.7K	NONE
R1727	NONE	1K	NONE	1K
R1728	NONE	1K	NONE	NONE

NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION ---- POWER ON DVD STOP
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN uF(F=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(uF)/RATED VOLTAGE (V).
   ALL DIODES ARE 1SS133-T2

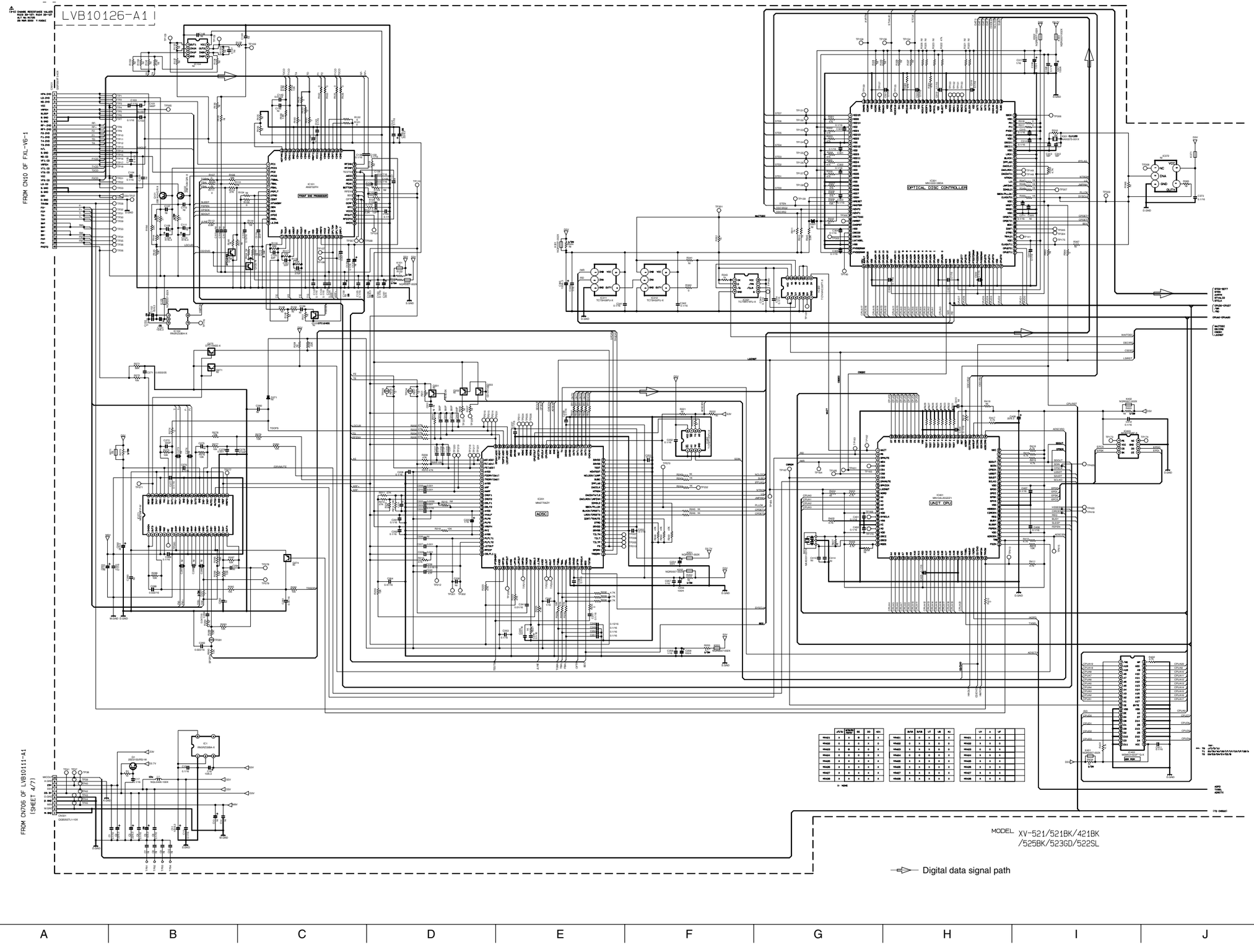
MODEL XV-421BK/521BK /522SL/523GD/525BK

Digital audio signal path
Audio signal path

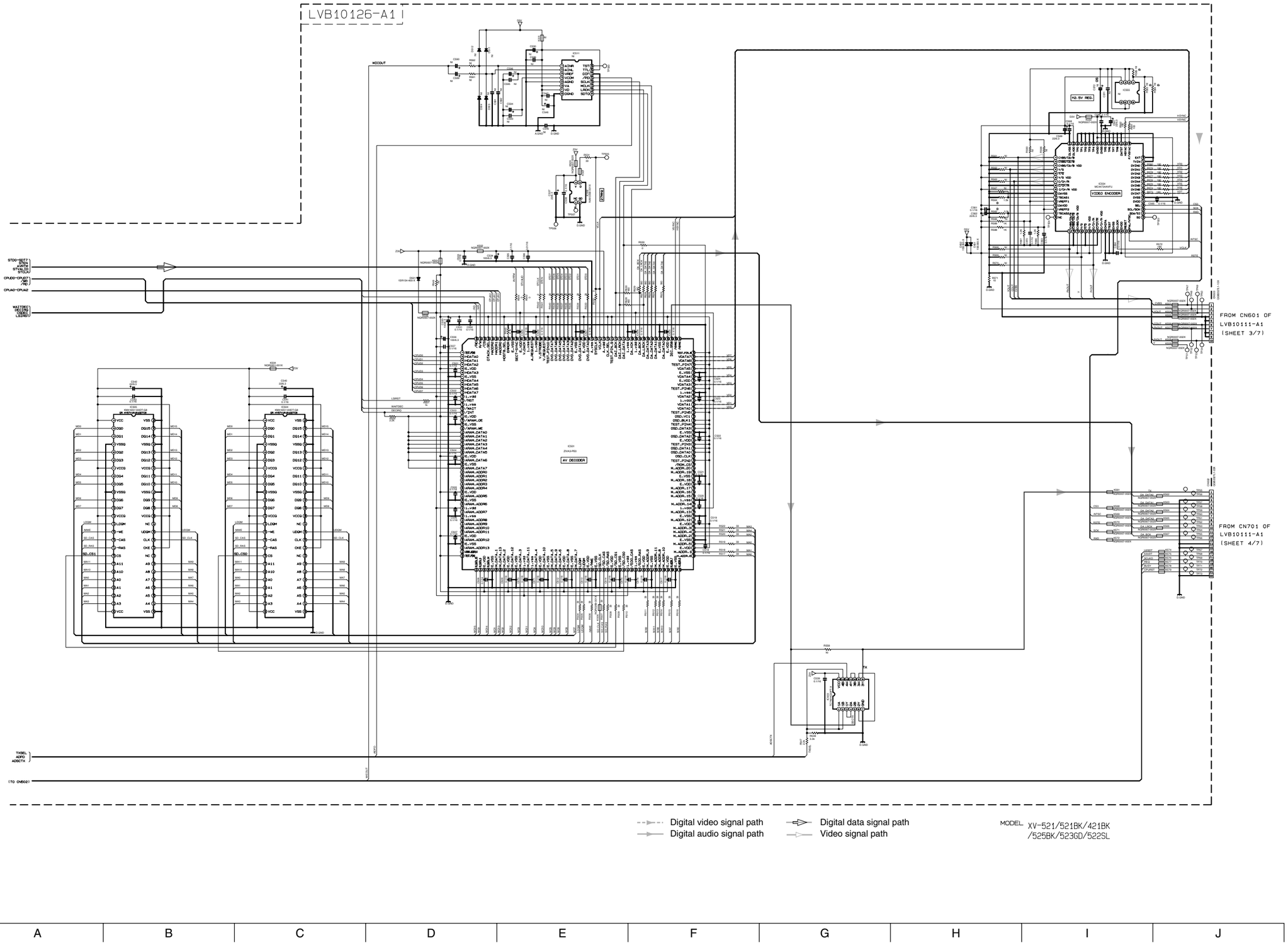
■ Analog circuit



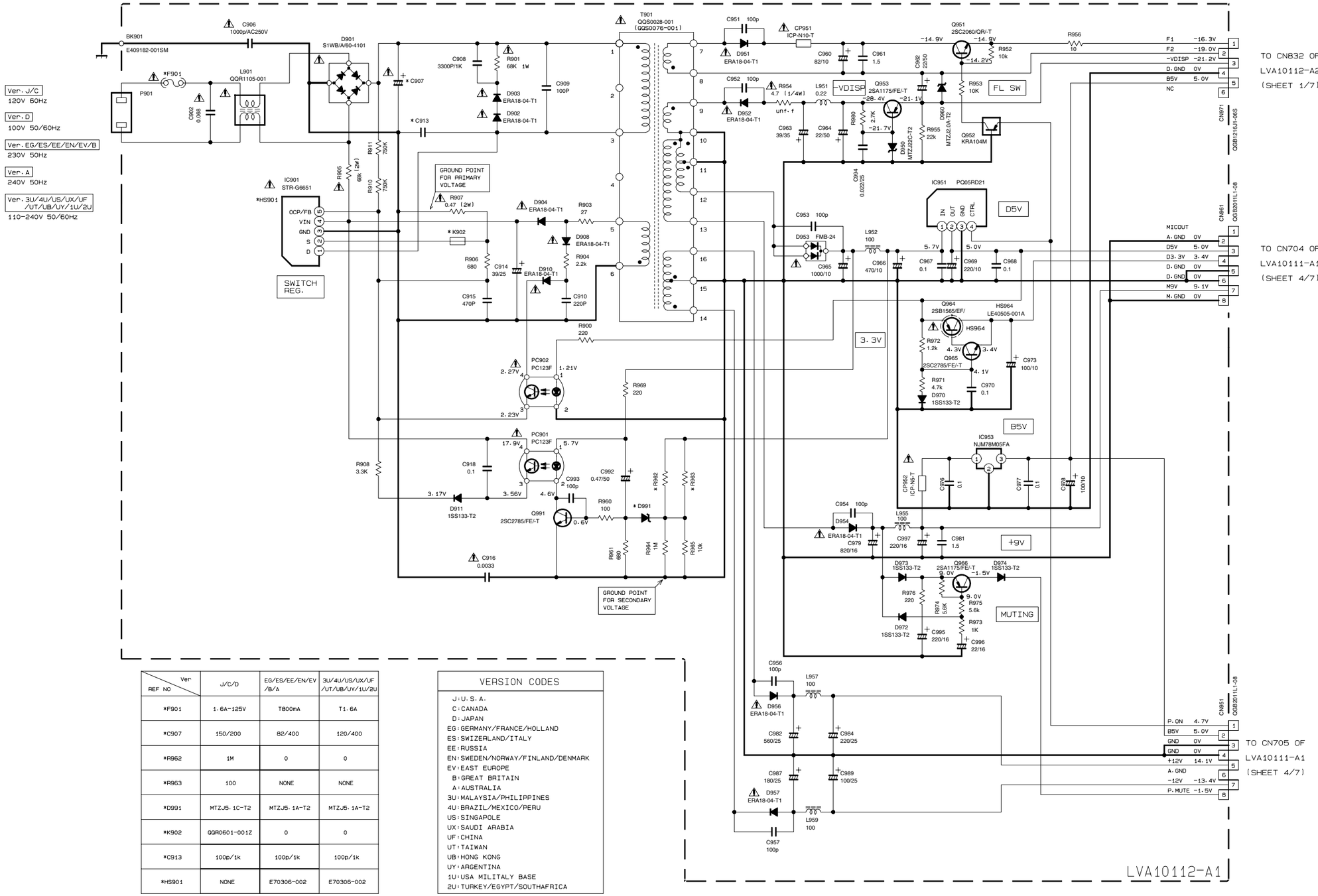
■ DVD servo circuit



■ DSP circuit


LVB10126-A1
FROM CN601 OF LVB10111-A1 (SHEET 3/7)
FROM CN701 OF LVB10111-A1 (SHEET 4/7)
TO CN602
Digital video signal path
Digital audio signal path
Digital data signal path
Video signal path
MODEL XV-521/521BK/421BK /525BK/523GD/522SL

■ Power supply circuit



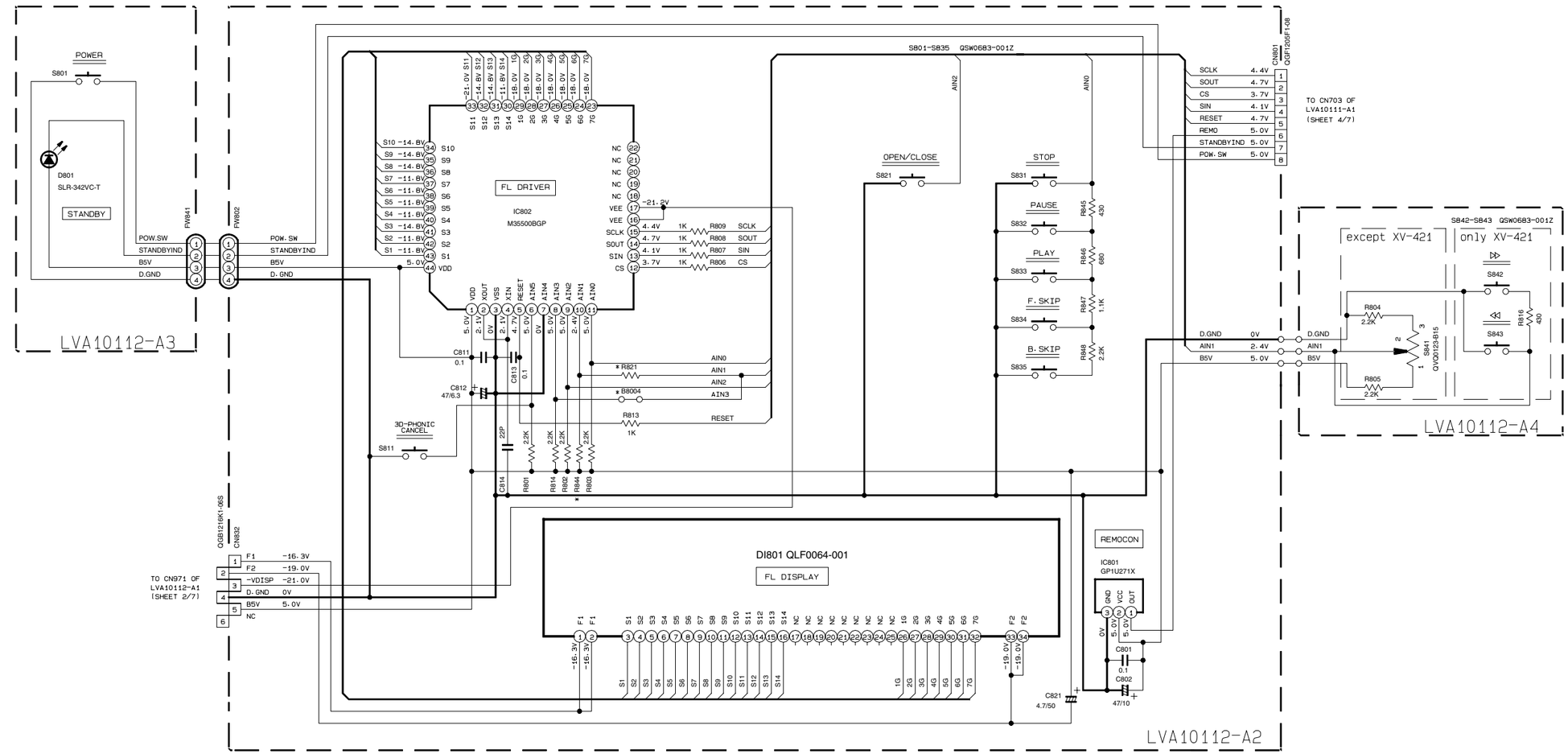
REF NO \ Ver	J/C/D	EG/ES/EE/EN/EV /B/A	3U/4U/US/UX/UF /UT/UB/UY/1U/2U
*F901	1.6A-125V	T800mA	T1.6A
*C907	150/200	82/400	120/400
*R962	1M	0	0
*R963	100	NONE	NONE
*D991	MTZJ5.1C-T2	MTZJ5.1A-T2	MTZJ5.1A-T2
*K902	QQR0601-001Z	0	0
*C913	100p/1k	100p/1k	100p/1k
*HS901	NONE	E70306-002	E70306-002

VERSION CODES

J : U.S.A.
C : CANADA
D : JAPAN
EG : GERMANY/FRANCE/HOLLAND
ES : SWIZERLAND/ITALY
EE : RUSSIA
EN : SWEDEN/NORWAY/FINLAND/DENMARK
EV : EAST EUROPE
B : GREAT BRITAIN
A : AUSTRALIA
3U : MALAYSIA/PHILIPPINES
4U : BRAZIL/MEXICO/PERU
US : SINGAPOLE
UX : SAUDI ARABIA
UF : CHINA
UT : TAIWAN
UB : HONG KONG
UY : ARGENTINA
1U : USA MILITALY BASE
2U : TURKEY/EGYPT/SOUTHAFRICA

MODEL
XV-521/521BK/421BK
/525BK/523GD/522SL

■ Display circuit



REF NO \ MODEL	XV-421	except XV-421
*B8004	QUY150-050Y	NONE
*R821	NONE	1k
*R844	2.2k	NONE

NOTES

1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
   CONDITION --- POWER ON NO DISC
2. UNLESS OTHERWISE SPECIFIED.
   ALL RESISTORS ARE 1/6W ±5% CARBON RESISTOR.
   ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
   ALL RESISTANCE VALUES ARE IN OHM(Ω).
   ALL CAPACITANCE VALUES ARE IN μF(P=pF).
   ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).

XV-521/521BK/421BK
/525BK/523GD/522SL

■ Voltage value section

IC101

NO	DC(V)	NO	DC(V)
1	0V	51	2.2V
2	4.2V	52	2.2V
3	0V	53	2.2V
4	4.3V	54	2.2V
5	1.7V	55	4.8V
6	1.7V	56	2.2V
7	1.7V	57	2.2V
8	4.1V	58	2.2V
9	3.3V	59	2.2V
10	0V	60	2.2V
11	4.8V	61	0V
12	4.9V	62	2.2V
13	4.9V	63	2.2V
14	4.9V	64	1.6V
15	1.2V		
16	1.7V		
17	1.7V		
18	1.7V		
19	1.7V		
20	1.7V		
21	1.7V		
22	1.7V		
23	0V		
24	1.7V		
25	3.3V		
26	0V		
27	2.1V		
28	4.8V		
29	4.8V		
30	2.1V		
31	2.1V		
32	2.0V		
33	0V		
34	1.3V		
35	2.4V		
36	3.3V		
37	1.9V		
38	2.4V		
39	0V		
40	0V		
41	1.7V		
42	1.5V		
43	1.6V		
44	1.1V		
45	2.5V		
46	2.1V		
47	2.1V		
48	2.1V		
49	2.2V		
50	2.2V		

IC102

NO	DC(V)
1	0V
2	5.0V
3	0V
4	0V
5	0V

IC201

NO	DC(V)	NO	DC(V)
1	1.7V	51	1.7V
2	1.7V	52	1.7V
3	1.7V	53	3.2V
4	3.2V	54	0V
5	1.7V	55	0V
6	1.7V	56	0V
7	0V	57	0V
8	1.6V	58	2.6V
9	1.6V	59	0V
10	1.5V	60	0V
11	1.5V	61	0V
12	1.7V	62	0V
13	1.5V	63	0V
14	3.2V	64	0V
15	1.7V	65	0V
16	2.7V	66	0V
17	0.2V	67	3.3V
18	2.2V	68	1.7V
19	1.5V	69	3.3V
20	0V	70	2.5V
21	1.6V	71	0V
22	1.6V	72	0V
23	1.5V	73	0V
24	1.7V	74	0V
25	1.5V	75	3.3V
26	2.1V	76	1.7V
27	3.2V	77	1.1V
28	1.7V	78	1.1V
29	0V	79	1.1V
30	0V	80	1.1V
31	1.7V	81	0V
32	0V	82	3.3V
33	1.7V	83	3.3V
34	1.7V	84	4.8V
35	0.1V	85	4.9V
36	1.6V	86	4.9V
37	1.7V	87	3.3V
38	3.2V	88	4.9V
39	1.6V	89	4.9V
40	1.6V	90	0.5V
41	0V	91	1.7V
42	1.7V	92	2.5V
43	1.7V	93	3.3V
44	1.7V	94	0.7V
45	0V	95	0V
46	3.3V	96	2.6V
47	0V	97	1.8V
48	1.7V	98	1.6V
49	0V	99	1.6V
50	0.3V	100	1.7V

IC202

NO	DC(V)
1	0V
2	3.3V
3	4.9V
4	0V
5	0V
6	4.9V
7	0V
8	4.9V

IC271

NO	DC(V)
1	0V
2	0V
3	0V
4	9V
5	9V
6	0V
7	0V
8	1.37V
9	3.9V
10	3.4V
11	0V
12	3.4V
13	4.5V
14	5.7V
15	3V
16	0V
17	0V
18	0V
19	0V
20	1.37V
21	0V
22	1.37V
23	1.37V
24	0V
25	0V
26	3.16V
27	1.37V
28	0V
29	1.41V
30	2.37V
31	2.56V
32	0V
33	2.39V
34	2.56V
35	1.34V
36	1.37V
37	4.93V
38	0V
39	9V
40	1.37V
41	3.2V
42	3V

IC301

NO	DC(V)	NO	DC(V)	NO	DC(V)
1	3.3V	51	1.0V	101	1.6V
2	3.3V	52	1.0V	102	3.3V
3	3.3V	53	3.6V	103	0V
4	3.3V	54	3.8V	104	3.3V
5	0V	55	1.0V	105	3.3V
6	3.3V	56	0V	106	3.3V
7	3.3V	57	0.7V	107	0V
8	0V	58	4.9V	108	0V
9	3.3V	59	4.9V	109	2.5V
10	3.6V	60	4.4V	110	0V
11	3.3V	61	3.3V	111	1.7V
12	3.3V	62	1.2V	112	1.1V
13	3.3V	63	2.4V	113	1.1V
14	3.3V	64	0V	114	1.1V
15	3.3V	65	0V	115	1.1V
16	3.3V	66	2.6V	116	3.3V
17	3.3V	67	0V	117	3.3V
18	0V	68	1.0V	118	3.3V
19	0V	69	2.1V	119	0V
20	3.3V	70	1.0V	120	0V
21	3.3V	71	0V	121	0V
22	4.5V	72	2.3V	122	0V
23	4.5V	73	0.8V	123	0V
24	0V	74	0.8V	124	3.3V
25	0.1V	75	1.7V	125	2.6V
26	4.9V	76	3.3V	126	1.3V
27	4.9V	77	0V	127	0V
28	1.4V	78	3.3V	128	1.4V
29	0V	79	0V	129	1.1V
30	3.3V	80	3.3V	130	3.3V
31	0V	81	0V	131	1.6V
32	3.3V	82	0V	132	3.3V
33	0V	83	0V	133	0V
34	0V	84	0V	134	0V
35	0V	85	4.8V	135	3.3V
36	2.6V	86	2.6V	136	1.3V
37	0V	87	1.7V	137	0V
38	0.3V	88	0V	138	3.3V
39	0V	89	0V	139	1.3V
40	4.1V	90	0V	140	1.0V
41	4.3V	91	0V	141	1.1V
42	4.2V	92	3.3V	142	0V
43	1.6V	93	0V	143	3.3V
44	2.6V	94	3.3V	144	3.3V
45	3.3V	95	0V		
46	3.6V	96	3.3V		
47	3.7V	97	0V		
48	3.8V	98	0V		
49	3.7V	99	0V		
50	3.8V	100	1.6V		

IC311

NO	DC(V)
1	5.0V
2	4.6V
3	0V
4	4.7V
5	5.0V

IC312

NO	DC(V)
1	5.0V
2	4.7V
3	0V
4	5.0V
5	5.0V

IC321

NO	DC(V)
1	5.0V
2	5.0V
3	5.0V
4	0V
5	0V
6	0V
7	5.0V
8	5.0V

IC322

NO	DC(V)
1	5.0V
2	5.0V
3	0V
4	0V
5	0V
6	5.0V
7	0V
8	5.0V
9	0V
10	0V
11	0V
12	5.0V
13	5.0V
14	5.0V

IC372

NO	DC(V)
1	0V
2	1.4V
3	0V
4	1.6V
5	3.2V

IC401

NO	DC(V)	NO	DC(V)
1	5.0V	51	0.6V
2	5.0V	52	5.0V
3	5.0V	53	5.0V
4	5.0V	54	5.0V
5	0V	55	5.0V
6	5.0V	56	5.0V
7	5.0V	57	0V
8	4.4V	58	0V
9	0V	59	5.0V
10	0V	60	0V
11	4.9V	61	0V
12	5.0V	62	0V
13	0V	63	0V
14	0V	64	0V
15	2.1V	65	0V
16	1.9V	66	5.0V
17	5.0V	67	4.8V
18	2.3V	68	3.8V
19	0V	69	4.8V
20	0V	70	5.0V
21	5.0V	71	0V
22	5.0V	72	5.0V
23	2.4V	73	5.0V
24	2.4V	74	5.0V
25	5.0V	75	5.0V
26	2.7V	76	5.0V
27	1.8V	77	5.0V
28	2.1V	78	3.1V
29	1.7V	79	0V
30	3.5V	80	5.0V
31	3.5V	81	5.0V
32	2.1V	82	4.9V
33	2V	83	5.0V
34	5.0V	84	5.0V
35	2.6V	85	0V
36	4.3V	86	0V
37	4V	87	0V
38	0V	88	5.0V
39	5V	89	5.0V
40	0V	90	5.0V
41	0V	91	5.0V
42	0V	92	0V
43	0V	93	1.1V
44	0V	94	1.5V
45	0V	95	0V
46	0V	96	0V
47	0V	97	2.3V
48	5V	98	2.3V
49	0V	99	2.3V
50	5.0V	100	2.4V

IC402

NO	DC(V)
1	4.9V
2	0V
3	3.5V
4	0V
5	1.7V
6	2.1V
7	1.8V
8	2.7V
9	1.9V
10	2.1V
11	0V
12	4.6V
13	0V
14	4.2V
15	1.1V
16	0V
17	1.5V
18	0V
19	0V
20	0V
21	0V
22	0V
23	5V
24	2.3V
25	0V
26	2.3V
27	0V
28	2.3V
29	0V
30	2.4V
31	0V
32	0V
33	0V
34	0V
35	5V
36	0V
37	4V
38	4.3V
39	2.6V
40	2V
41	2.1V
42	3.5V
43	0V
44	0V

IC403

NO	DC(V)
1	4.9V
2	5.0V
3	0V
4	0V
5	0V
6	1.0V
7	0V
8	0V

IC501

NO	DC(V)	NO	DC(V)	NO	DC(V)	NO	DC(V)
1	3.1V	53	0.7V	105	0V	157	0.9V
2	1.7V	54	0.7V	106	0V	158	0.9V
3	0.7V	55	3.1V	107	3.1V	159	0V
4	2.0V	56	0.6V	108	0V	160	3.1V
5	3.1V	57	0V	109	0V	161	0V
6	1.6V	58	0.6V	110	0V	162	0V
7	0V	59	0.5V	111	0V	163	0V
8	0V	60	0.5V	112	0V	164	0V
9	2.4V	61	3.1V	113	3.1V	165	0V
10	2.9V	62	0.6V	114	0V	166	0V
11	2.6V	63	0V	115	0V	167	0V
12	2.5V	64	0.6V	116	0V	168	2.5V
13	5.0V	65	2.5V	117	2.5V	169	0.9V
14	0V	66	0.7V	118	0V	170	0V
15	5.0V	67	0V	119	0V	171	0V
16	3.1V	68	0.7V	120	0V	172	1.6V
17	3.1V	69	3.1V	121	0V	173	1.6V
18	3.1V	70	0.6V	122	0V	174	3.1V
19	0V	71	0V	123	3.1V	175	3.1V
20	3.1V	72	0.7V	124	0V	176	3.1V
21	3.1V	73	0.7V	125	0V	177	1.6V
22	3.1V	74	0.6V	126	0V	178	3.1V
23	3.1V	75	3.1V	127	0V	179	0V
24	3.1V	76	0.7V	128	0.8V	180	5.0V
25	3.1V	77	0V	129	3.1V	181	3.1V
26	3.1V	78	0.8V	130	3.1V	182	5.0V
27	3.1V	79	3.2V	131	3.1V	183	0V
28	3.1V	80	3.2V	132	3.1V	184	5.0V
29	0V	81	3.1V	133	3.1V	185	5.0V
30	3.1V	82	3.2V	134	3.1V	186	5.0V
31	0V	83	0V	135	3.1V	187	5.0V
32	0V	84	0V	136	0V	188	5.0V
33	0V	85	3.2V	137	3.1V	189	5.0V
34	0V	86	0V	138	3.1V	190	3.1V
35	3.1V	87	3.1V	139	3.1V	191	3.1V
36	3.1V	88	0V	140	0.8V	192	2.6V
37	0V	89	0V	141	3.1V	193	3.1V
38	0V	90	3.1V	142	0.9V	194	0V
39	0V	91	2.5V	143	0.9V	195	0V
40	2.5V	92	3.1V	144	2.5V	196	0V
41	3.1V	93	0V	145	0.9V	197	2.5V
42	0V	94	3.1V	146	0V	198	5.0V
43	3.1V	95	3.1V	147	3.1V	199	0V
44	0V	96	0V	148	0.9V	200	0V
45	3.1V	97	0V	149	3.1V	201	3.1V
46	3.1V	98	0V	150	0.9V	202	2.2V
47	0V	99	0V	151	0V	203	2.4V
48	3.1V	100	0V	152	0.9V	204	2.5V
49	0V	101	3.1V	153	3.1V	205	3.1V
50	3.1V	102	0V	154	0.9V	206	5.0V
51	0V	103	0V	155	0.9V	207	5.0V
52	3.1V	104	0V	156	3.1V	208	2.0V

IC502

NO	DC(V)
1	3.1V
2	0V
3	1.6V
4	3.2V

IC503

NO	DC(V)
1	0V
2	0V
3	3.2V
4	3.2V
5	1.6V
6	1.6V
7	0V
8	1.6V
9	1.6V
10	3.2V
11	3.2V
12	3.2V
13	0V
14	3.2V

IC504

NO	DC(V)
1	3.2V
2	0V
3	0V
4	0V
5	0V
6	0.3V
7	3.2V
8	0V
9	0V
10	0V
11	0V
12	0V
13	3.2V
14	0V
15	3.1V
16	3.1V
17	3.1V
18	2.3V
19	0V
20	0V
21	0V
22	3.1V
23	3.1V
24	0V
25	3.2V
26	0V
27	3.1V
28	0V
29	3.1V
30	0V
31	3.1V
32	0V
33	0V
34	3.2V
35	1.7V
36	0V
37	0V
38	3.2V
39	0V
40	0V
41	0V
42	0V
43	0V
44	3.2V
45	0V
46	0V
47	0V
48	0V
49	0V
50	0V

IC505

NO	DC(V)
1	3.2V
2	0V
3	0V
4	0V
5	0V
6	0.3V
7	3.2V
8	0V
9	0V
10	0V
11	0V
12	0V
13	3.2V
14	0V
15	3.1V
16	3.1V
17	3.1V
18	2.3V
19	0V
20	0V
21	0V
22	3.1V
23	3.1V
24	0V
25	3.2V
26	0V
27	3.1V
28	0V
29	3.1V
30	0V
31	3.1V
32	0V
33	0V
34	3.2V
35	1.7V
36	0V
37	0V
38	3.2V
39	0V
40	0V
41	0V
42	0V
43	0V
44	3.2V
45	0V
46	0V
47	0V
48	0V
49	0V
50	0V

IC554

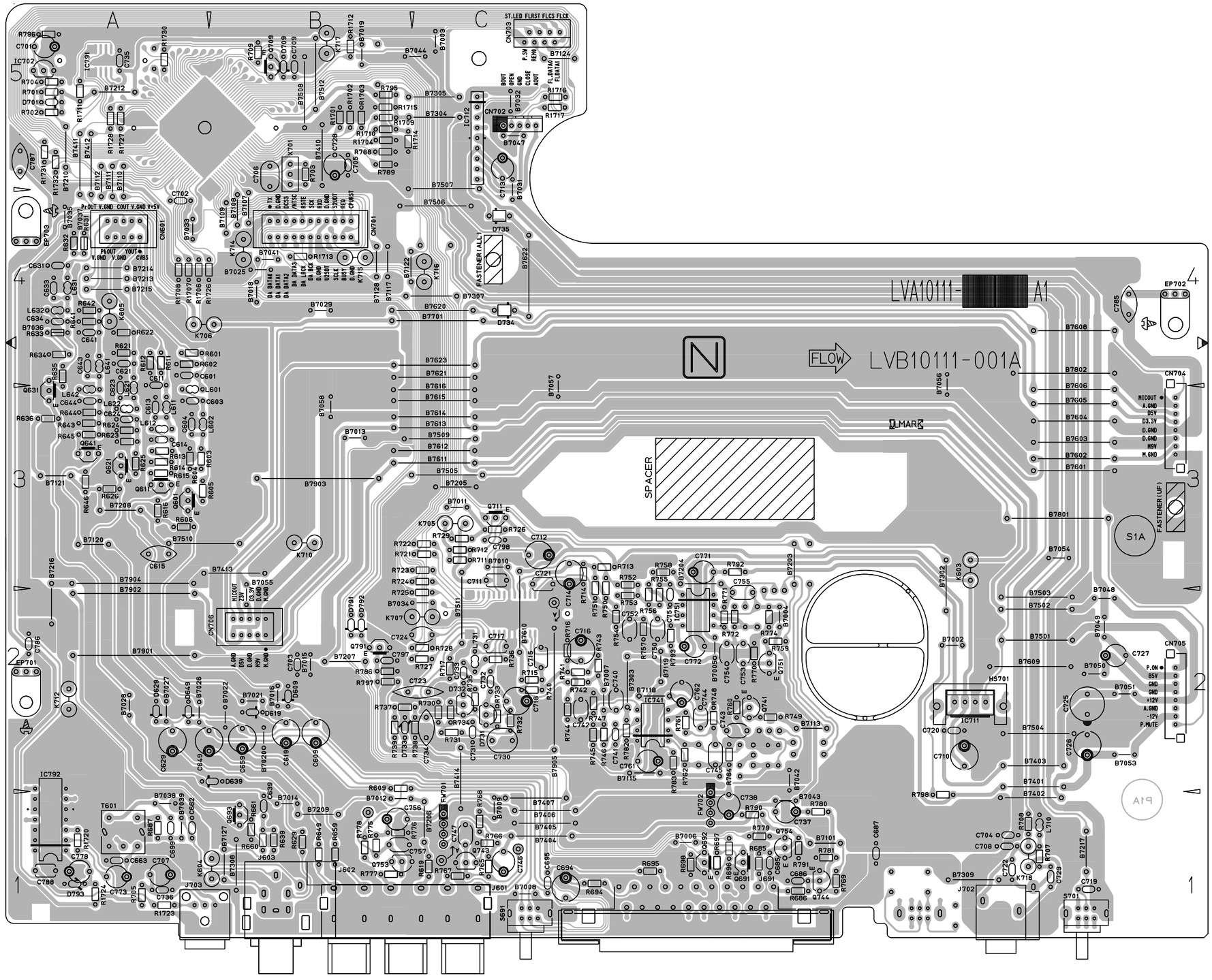
NO	DC(V)	NO	DC(V)
1	1.3V	51	0V
2	0V	52	0V
3	5V	53	0V
4	1.27V	54	0V
5	0V	55	0V
6	5V	56	0V
7	2.1V	57	3.2V
8	0V	58	0V
9	5V	59	0V
10	0V	60	0V
11	2.8V	61	0V
12	2.8V	62	0V
13	5V	63	5.1V
14	2.7V	64	0V
15	0V		
16	0V		
17	0.9V		
18	0V		
19	5V		
20	5V		
21	0V		
22	0.3V		
23	0V		
24	0V		
25	0V		
26	0V		
27	0V		
28	0V		
29	1.6V		
30	3.2V		
31	5V		
32	0V		
33	0.9V		
34	1.3V		
35	2.1V		
36	1.3V		
37	0.6V		
38	0V		
39	1V		
40	1.4V		
41	1.2V		
42	1.6V		
43	1.2V		
44	1.2V		
45	1.2V		
46	1.2V		
47	0V		
48	0V		
49	3.2V		
50	2.8V		

MODEL XV-521/521BK/421BK /525BK/523GD/522SL

Printed circuit boards

■ MAIN board

(suface side)



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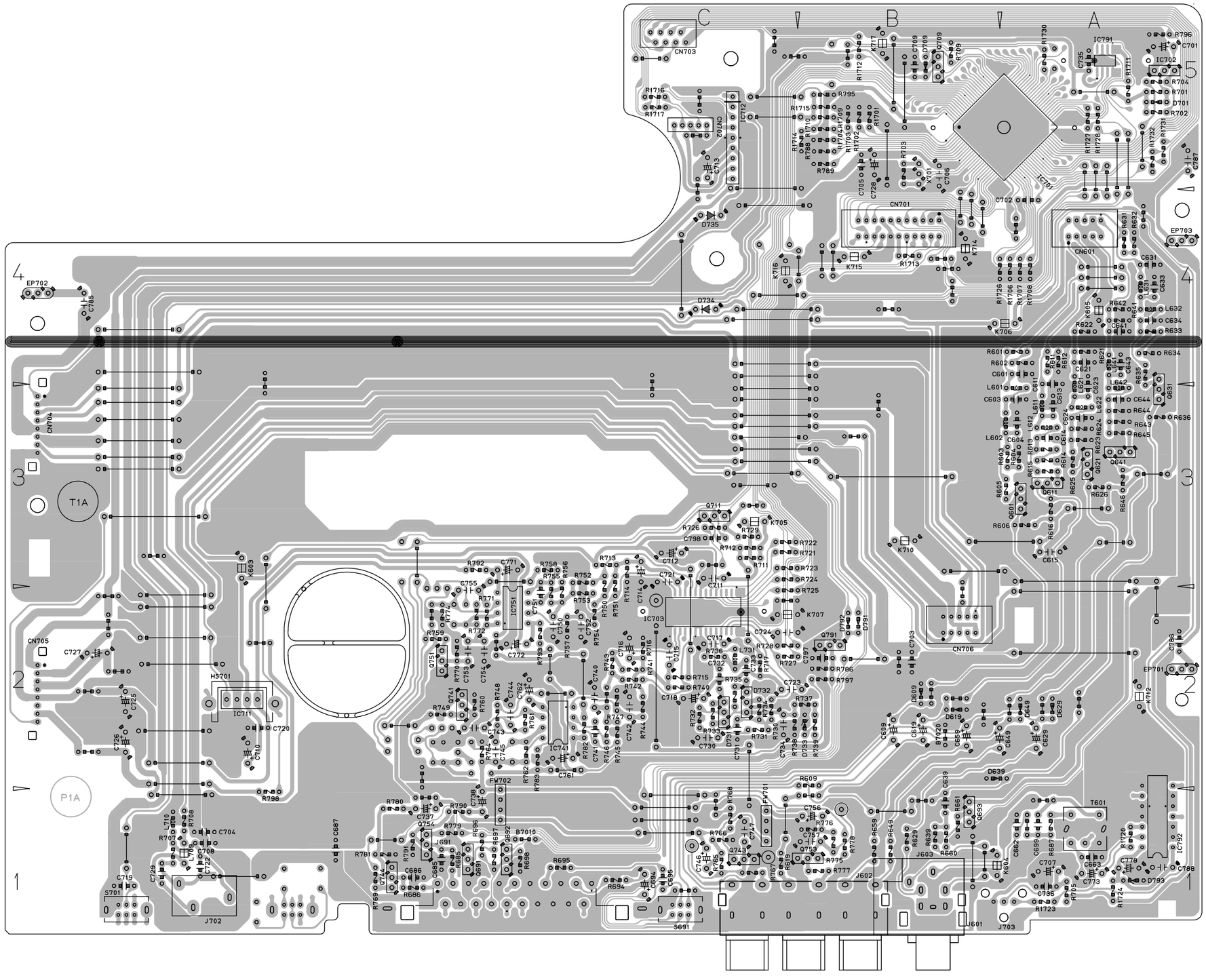
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K705
K706
K707
K710
K712
K603
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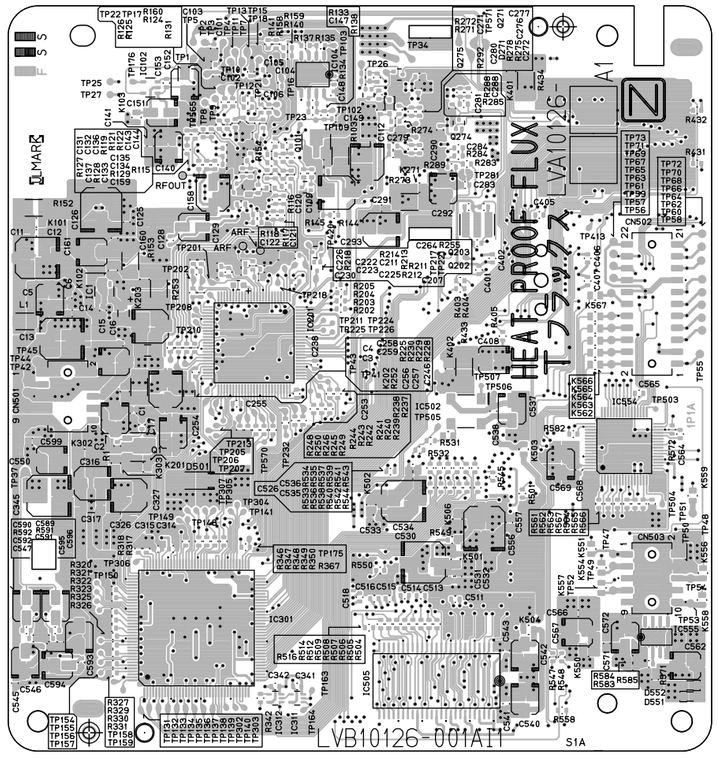
B7010
B7020

■ DVD Servo

(suface side)



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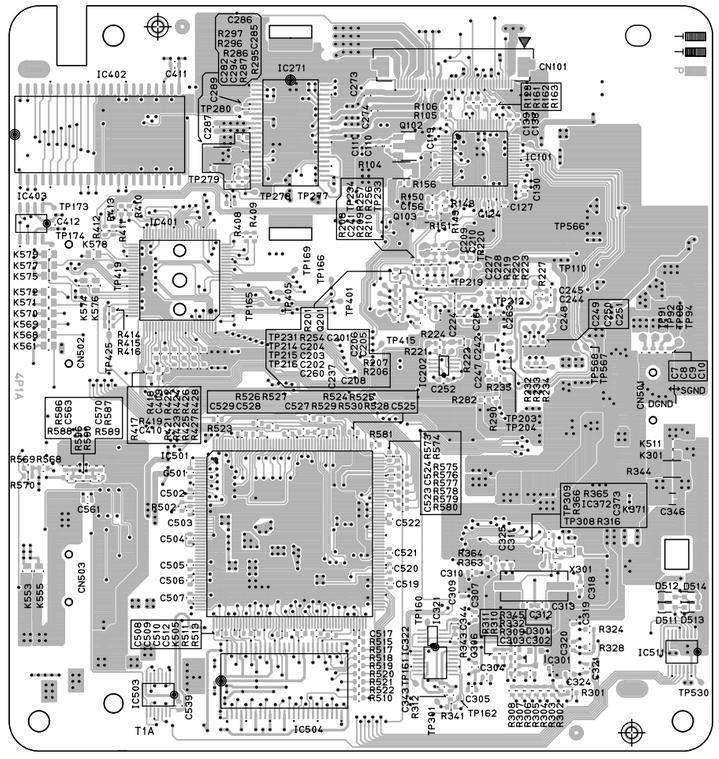

PARTS LIST

[XV-525/521/421BK]
[XV-523GD]

* All printed circuit boards and its assemblies are not available as service parts.

XV-525BK/XV-421BK/XV-523GD

Area suffix

J ---------- U.S.A.

XV-521BK

Area suffix

C ---------- Canada

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DVD loading base assembly and parts list ---------- 3-8
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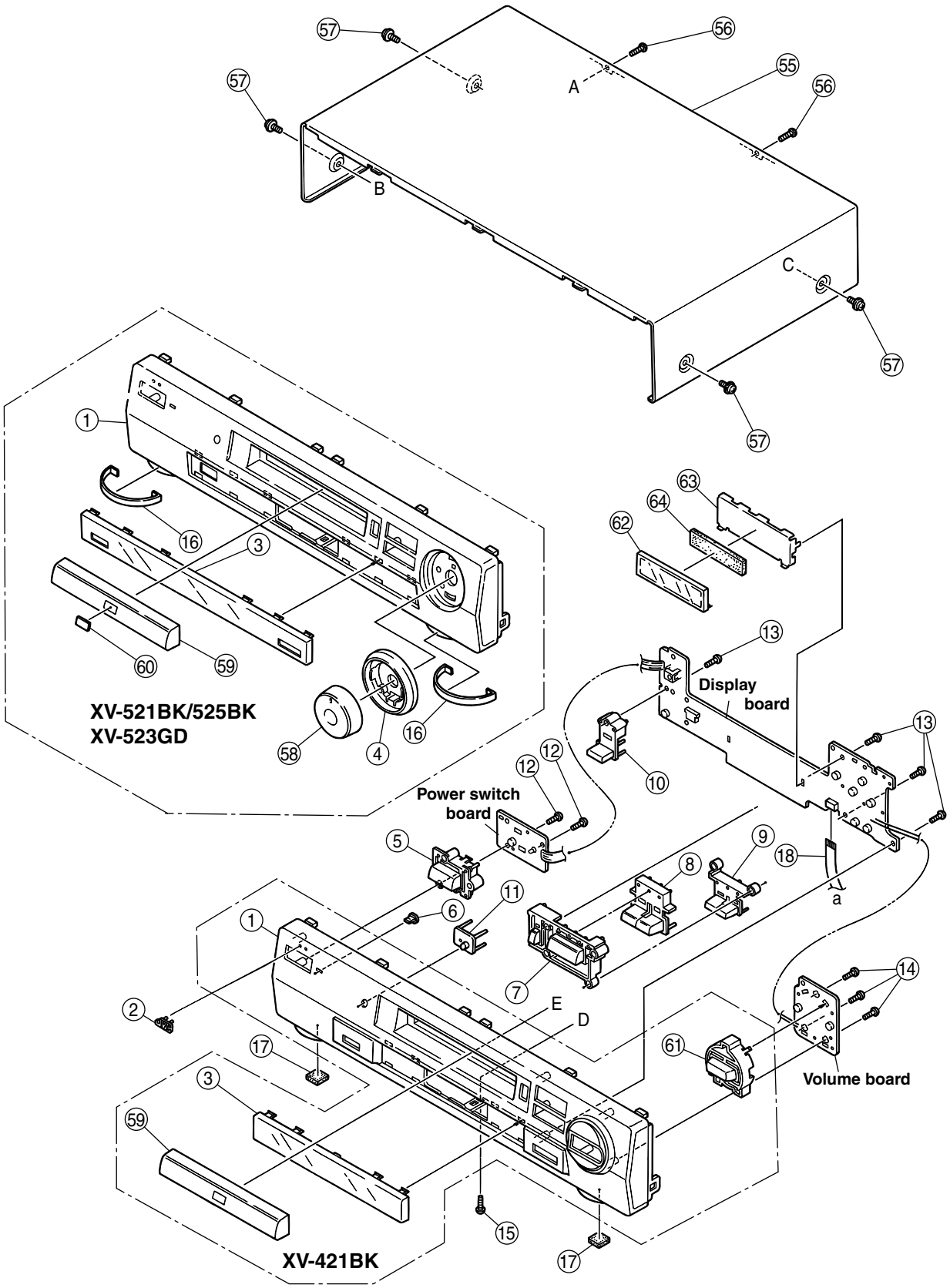
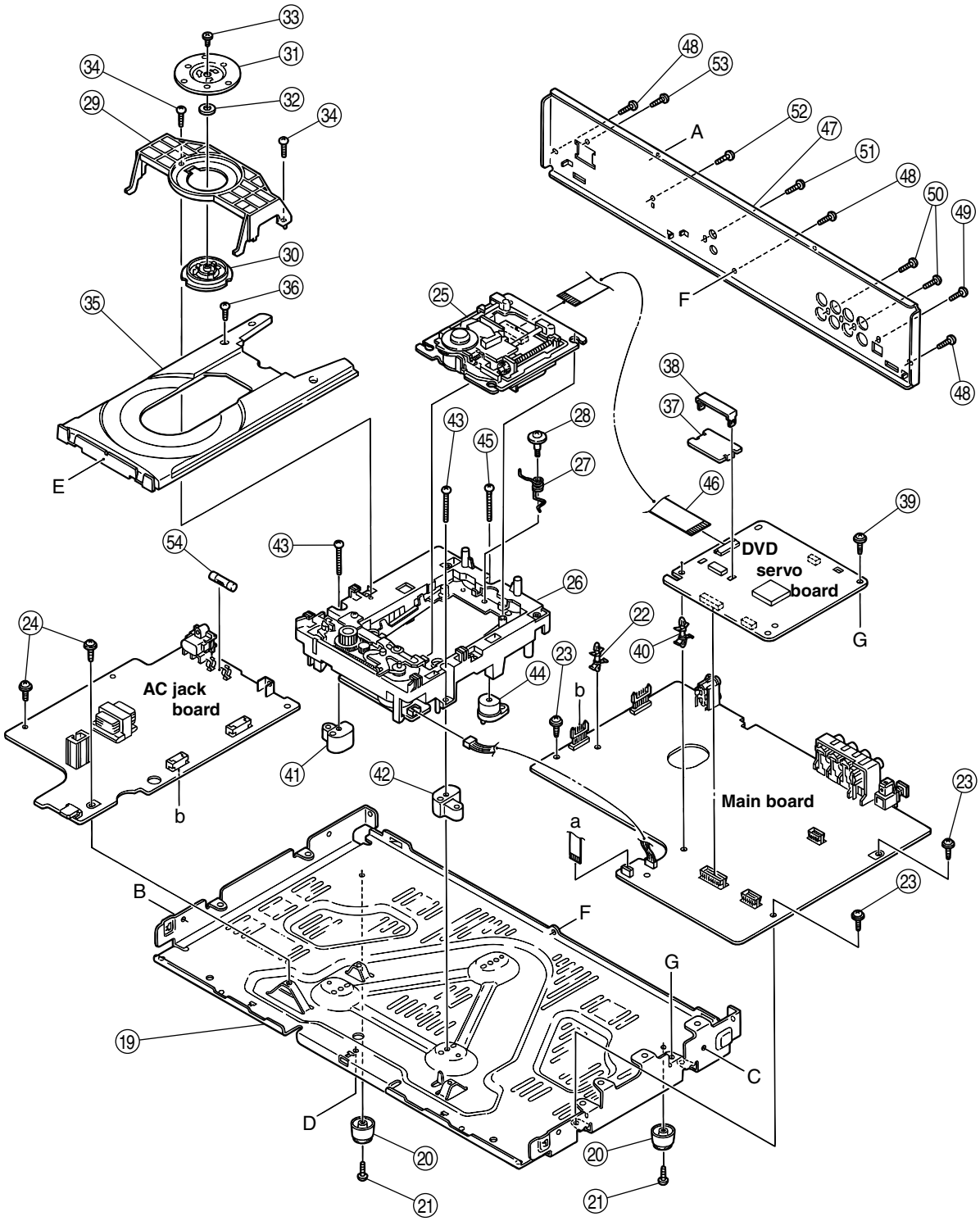
Packing materials and accessories parts list ---------- 3-20

Exploded view of general assembly and parts list

Block No. M 1 M M

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48
50
49
A
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48
38
37
43
45
28
27
46
39
E
54
43
26
DVD
servo
board
G
24
22
40
23
b
44
AC jack
board
41
42
Main board
23
a
23
B
F
G
19
C
D
20
20
21
21
b

■ Parts list (General assembly)

Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	LV10320-001A	FRONT PANEL	1	XV-521BK	
		LV10320-010A	FRONT PANEL	1	XV-421BK	
		LV10320-006A	FRONT PANEL	1	XV-525BK	
		LV10320-011A	FRONT PANEL	1	XV-523GD	
	2	VJD5429-001SS	JVC MARK	1		
	3	LV20630-001A	FRONT LENS(A)	1	XV-525BK/521BK	
		LV20630-003A	FRONT LENS(A)	1	XV-523GD	
		LV20707-001A	FRONT LENS(B)	1	XV-421BK	
	4	LV31163-001A	SHUTTLE RING	1	XV-525BK/521BK	
		LV31163-002A	SHUTTLE RING	1	XV-523GD	
	5	LV31655-004A	POWER BUTTON	1	XV-523GD	
		LV31655-001A	POWER BUTTON	1	XV-525BK/521BK/421BK	
	6	FSJD4001-002	INDICATOR	1	FOR POWER LED	
	7	LV31656-001A	PUSH BUTTON(A)	1	XV-525BK/521BK/421BK	
		LV31656-002A	PUSH BUTTON(A)	1	XV-523GD	
	8	LV31657-001A	PUSH BUTTON(B)	1	XV-525BK/521BK/421BK	
		LV31657-002A	PUSH BUTTON(B)	1	XV-523GD	
	9	LV31658-001A	PUSH BUTTON(C)	1	XV-525BK/521BK/421BK	
		LV31658-002A	PUSH BUTTON(C)	1	XV-523GD	
	10	LV31659-001A	PUSH BUTTON(3D)	1	3D PHONIC	
	11	E308744-003	REMOTE LENS	1	XV-523GD	
		E308744-002	REMOTE LENS	1	XV-525BK/521BK/421BK	
	12	QYSBSF2608Z	T.SCREW	2	BIND --> BRAZIE	
	13	QYSBSF2608Z	T.SCREW	4	BIND --> BRAZIE	
	14	QYSBSF2608Z	T.SCREW	3	BIND --> BRAZIE	
	15	QYSBSG3008M	T.SCREW	1	ONLY CENTER POS	
	16	LV31790-001A	FOOT PLATE	2	XV-525BK/521BK/523GD	
	17	E75896-001	FELT SPACER	2	FOR FOOT	
	18	QUQB12-0809AJ	FFC WIRE	1	FRONT --> AUDIO	
	19	LV10321-001A	CHASSIS BASE	1		
	20	E47227-008	FOOT	2	REAR	
	21	QYSBST3008Z	T.SCREW	2	FOR FOOT	
	22	LV41875-001A	FASTENER	1		
	23	QYSBSGG3006E	SCREW	3	SYSTEM + CHASSIS	
	24	QYSBSGG3006E	SCREW	2	POWER + CHASSIS	
	25	----------	DVD TRAVERSE MECHA	1		
	26	----------	DVD LOADING BASE	1		
	27	LV41842-001A	TORSION SPRING	1	FOR ELEVATOR BA	
	28	E406293-001	SPECIAL SCREW	1	FOR ELEVATOR BA	
	29	E26756-222SS	CD CLAMPER BASE	1		
	30	LV31675-002A	CLAMPER	1		
	31	LV31676-001A	YOKE	1		
	32	LV41118-001A	MAGNET	1		
	33	LV41741-001A	SPECIAL SCREW	1	CLAMPER + YOKE	
	34	QYSBSF3008M	SCREW	2	C.BASE + L.BASE	
	35	LV10324-001A	TRAY	1		
	36	QYSBSF3008M	SCREW	1	FOR TRAY STOPPER	
	37	LV41362-001A	HEAT SINK	1	FOR IC ON MODUL	

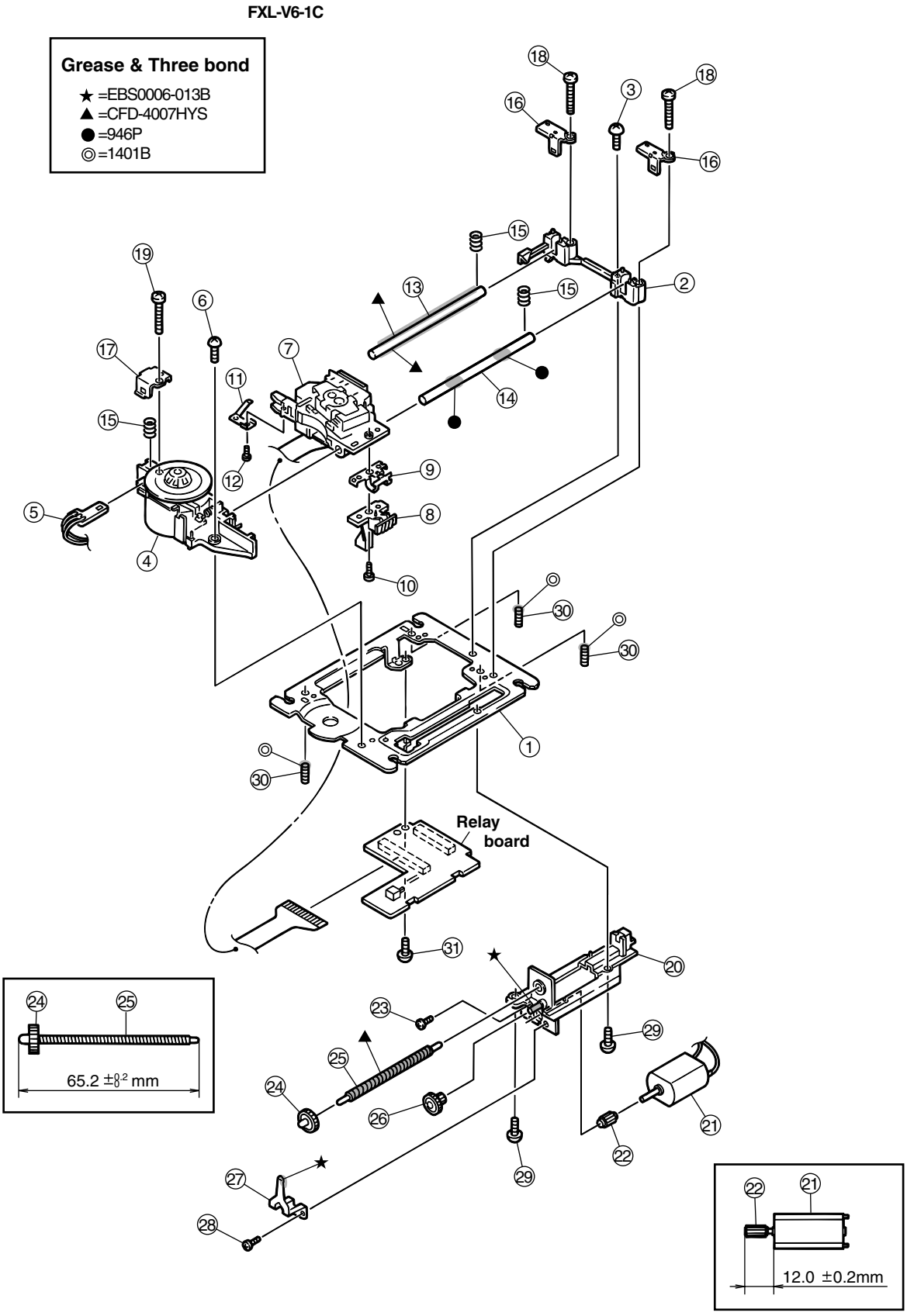
■ Parts list (General assembly)

Block No. M1MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	38	LV41363-002A	HOLDER	1	FOR HEAT SINK	
	39	QYSBSGG3006E	SCREW	1	MODULE + CHASSIS	
	40	E408621-002	FASTENER	1		
	41	E309322-001SC	STAND(L)	1	MECHA FORE SIDE	
	42	E309321-001SC	STAND(R)	1	MECHA FORE SIDE	
	43	QYSBST3020Z	T.SCREW	2	MECHA + CHASSIS	
	44	E309323-001SC	STAND(REAR)	1	MECHA REAR SIDE	
	45	QYSBST3020Z	T.SCREW	1	MECHA + CHASSIS	
	46	QUQ605-4015AJ	FFC WIRE	1	MECHA --> MODUL	
	47	LV20698-025A	REAR PANEL	1	XV-523GD	
		LV20698-023A	REAR PANEL	1	XV-525BK	
		LV20698-022A	REAR PANEL	1	XV-521BK	
		LV20698-024A	REAR PANEL	1	XV-421BK	
	48	QYSBSGY3008M	SPECIAL SCREW	3	REAR + CHASSIS	
	49	QYSBSGY3008M	SPECIAL SCREW	1	XV-525BK/521BK/523GD	
	50	QYSBSGY3008M	SPECIAL SCREW	2	LEFT & RIGHT ON	
	51	QYSBSGY3008M	SPECIAL SCREW	1	XV-525BK/521BK/523GD	
	52	QYSBSGY3008M	SPECIAL SCREW	1	FOR GND TERMINA	
	53	QYSBSGY3008M	SPECIAL SCREW	1	AC INLET	
⚠	54	QMF51U1-1R6-J8	FUSE	1		
	55	LE20082-002A/S/	METAL COVER	1	XV-523GD	
		LE20082-004A/S/	METAL COVER	1	XV-525BK/521BK/421BK	
	56	QYSBSGY3008E	SPECIAL SCREW	2	METAL + REAR	
	57	E406308-003	SPECIAL SCREW	4	XV-525BK/521BK/421BK	
		E406308-004	SPECIAL SCREW	4	XV-523GD	
	58	LE30714-001A	SHUTTLE KNOB	1	XV-525/521BK	
		LE30714-005A	SHUTTLE KNOB	1	XV-523GD	
	59	LV20631-001A	TRAY FITTING	1	XV-525/521BK	
		LV20631-002A	TRAY FITTING	1	XV-523GD	
		LV20631-003A	TRAY FITTING	1	XV-421BK	
	60	LE40564-002A	MARK	1	XV-525BK/521BK/523GD	
	61	LV31791-001A	PUSH BUTTON(E)	1	XV-421BK	
	62	QLF0064-001	FL TUBE	1	DI801	
	63	E308192-331	FL HOLDER	1	BK801	
	64	E306805-134	SPACER	1		

DVD mechanism assembly and parts list

Block No. M 2 M M



■ Parts list (DVD mechanism)

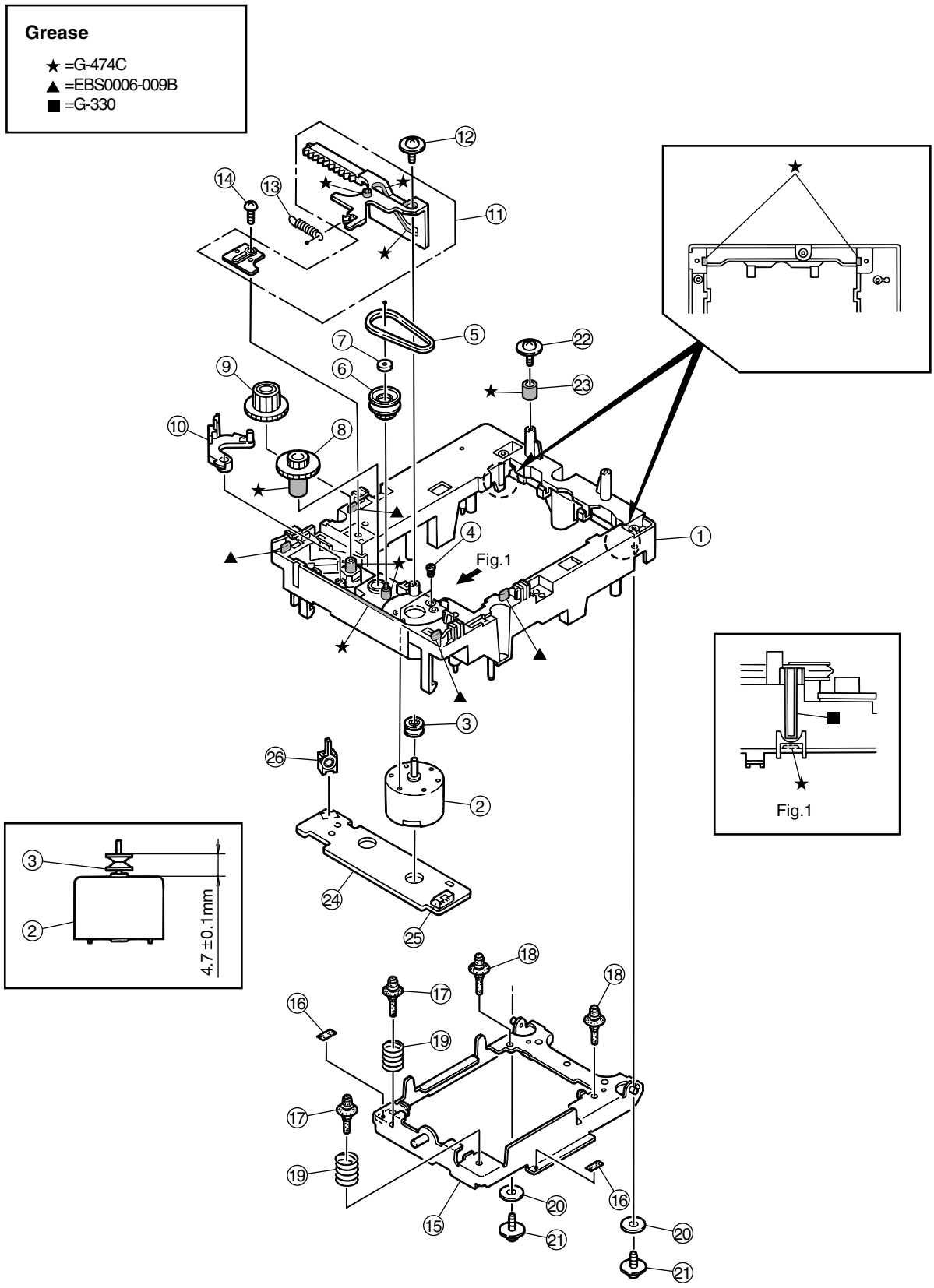
Block No. M2MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	LV20638-001A	MECHA BASE	1		
	2	LV20635-001A	SHAFT HOLDER	1		
	3	QYSBST2606M	T.SCREW	1		
	4	VDG1099001TSVME	SP. MOTOR ASS'Y	1		
	5	QUM193-08B2B2	PARA RIBON WIRE	1		
	6	QYSBST2606M	T.SCREW	1	FOR S.BASE&M.BA	
	7	OPTIMA-2010A1	DVD PICKUP	1		
	8	LV31670-001A	SWITCH ACTUATOR	1		
	9	LV31666-002A	LEAD SPRING	1		
	10	QYSPSGT2040M	SCREW	1		
	11	LV31743-002A	P.U. SPRING	1		
	12	QYSPSGT1416M	MINI SCREW	1		
	13	LV41121-002A	SHAFT	1	MAIN SHAFT	
	14	LV41121-002A	SHAFT	1	SUB SHAFT	
	15	LV41732-001A	SKEW SPRING	3		
	16	LV31669-001A	SHAFT STOPPER R	2		
	17	LV31668-001A	SHAFT STOPPER F	1		
	18	QYSPST2614M	SCREW	2	FOR SSTOPER R	
	19	QYSPST2614M	SCREW	1	FOR SSTOPER F	
	20	LV31746-003A	FEED HOLDER ASY	1		
	21	QAR0127-001	FEED MOTOR	1		
	22	LV41510-001A	FEED GEAR T	1		
	23	QYSPSPU2040M	SCREW	1	FOR F.M	
	24	LV41512-001A	FEED GEAR E	1		
	25	LV41517-001A	LEAD SCREW	1		
	26	LV41511-002A	FEED GEAR M	1		
	27	LV31667-001A	THRUST SPRING	1		
	28	QYSPSPU2040M	SCREW	1	FOR F.M	
	29	QYSBST2606M	T.SCREW	2	FOR F.HOLDER	
	30	QYYASPF2608N	HEX SCREW	3	FOR TILT ADJUST	
	31	QYSBST2606M	T.SCREW	1	FOR PW BOARD	

DVD loading base assembly and parts list

Block No. M 3 M M

FLM-121-1C



■ Parts list (DVD loading base)

Block No. M3MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	1	E102357-441	LOADING BASE	1		
	2	MMN-6F1LB8K	MOTOR	1		
	3	E75984-001SC	MOTOR PULLEY	1		
	4	QYSPSPT2640Z	MINI SCREW	2		
	5	E75950-002	BELT	1		
	6	E75985-222SS	GEAR(1)	1		
	7	E60912-005SS	SPEED NUT	1		
	8	E75986-221SS	GEAR (2)	1		
	9	E75987-221SS	GEAR (3)	1		
	10	E307162-331	LEVER	1		
	11	E307252-331	CAM PLATE	1		
	12	E65923-003	TAPPING SCREW	1		
	13	E75989-001	SPRING	1		
	14	QYSBSF3008Z	SCREW	1		
	15	E307179-332	E.BASE ASS'Y	1		
	16	LV30225-089A	SPACER	2		
	17	LV41527-001A	INSULATOR	2		
	18	LV41527-002A	INSULATOR	2		
	19	E406871-001	SPRING	2		
	20	LV30226-019A	SPACER	2		
	21	E65923-003	TAPPING SCREW	2		
	22	QYSBSFG3008Z	T.SCREW	1		
	23	LV41961-001A	TRAY TUBE	1		
	24	EMW10095-003	P.C.BOARD	1	LOADING MOTOR	
	25	QGA2001F1-05	5P PLUG ASSY	1		
	26	QSW0472-001	SWITCH	1		

■ Electrical parts list (Power board)

Block No. 01

⚠	Item	Parts number	Parts name	Remarks	Area
	C 801	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 802	QEKC1AM-476Z	E CAPACITOR	47MF 20% 10V	
	C 811	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 812	QEKC0JM-476Z	E CAPACITOR	47MF 20% 6.3V	
	C 813	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 814	QCS11HJ-220	C CAPACITOR	22PF 5% 50V	
	C 821	QEKC1HM-475Z	E CAPACITOR	4.7MF 20% 50V	
⚠	C 902	QFZ9040-683	M CAPACITOR	.068MF	
⚠	C 906	QCZ9079-102	C CAPACITOR	1000PF	
⚠	C 907	QETM2DM-157	E CAPACITOR	150MF 20%	
	C 908	QCZ0136-332Z	C CAPACITOR	3300PF	
	C 909	QCZ0136-101Z	C CAPACITOR	100PF	
	C 910	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	
	C 913	QCZ0136-101Z	C CAPACITOR	100PF	
	C 914	QEMX1EM-396Z	E CAPACITOR	39MF 20% 25V	
	C 915	QCBB1HK-471Y	C CAPACITOR	470PF 10% 50V	
⚠	C 916	QCZ9079-332	C CAPACITOR	3300PF	
	C 918	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 951	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 952	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 953	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 954	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 956	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 957	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 960	QEMX1AM-826Z	E CAPACITOR	82MF 20% 10V	
	C 961	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 962	QETN1HM-226Z	E CAPACITOR	22MF 20% 50V	
	C 963	QEMX1HM-396Z	E CAPACITOR	39MF 20% 50V	
	C 964	QETN1HM-226Z	E CAPACITOR	22MF 20% 50V	
	C 965	QEMV1AM-108	E CAPACITOR	1000MF 20% 10V	
	C 966	QETN1AM-477Z	E CAPACITOR	470MF 20% 10V	
	C 967	QFVC1HJ-104Z	M.M.CAPACITOR	.10MF 5% 50V	
	C 968	QFVC1HJ-104Z	M.M.CAPACITOR	.10MF 5% 50V	
	C 969	QETN1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 970	QFVC1HJ-104Z	M.M.CAPACITOR	.10MF 5% 50V	
	C 973	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 976	QFVC1HJ-104Z	M.M.CAPACITOR	.10MF 5% 50V	
	C 977	QFVC1HJ-104Z	M.M.CAPACITOR	.10MF 5% 50V	
	C 978	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 979	QEMV1CM-827	E CAPACITOR	820MF 20% 16V	
	C 981	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 982	QEMV1EM-567	E CAPACITOR	560MF 20% 25V	
	C 984	QETN1EM-227Z	E CAPACITOR	220MF 20% 25V	
	C 987	QEMX1EM-187Z	E CAPACITOR	180MF 20% 25V	
	C 989	QETN1EM-107Z	E CAPACITOR	100MF 20% 25V	
	C 992	QETN1HM-474Z	E CAPACITOR	.47MF 20% 50V	
	C 993	QCBB1HK-101Y	C CAPACITOR	100PF 10% 50V	
	C 994	QDVB1EZ-223Y	C CAPACITOR		
	C 995	QETN1CM-227Z	E CAPACITOR	220MF 20% 16V	
	C 996	QETN1CM-226Z	E CAPACITOR	22MF 20% 16V	
	C 997	QETN1CM-227Z	E CAPACITOR	220MF 20% 16V	
	CN801	VMC0163-R08	CONNECTOR	TO CN703(SYS)	
	CN832	QGB1216K1-06S	CONNECTOR	TO CN971(POW)	
	CN951	QGB2011L1-08	B TO B CONNECTO	TO CN705(SYS)	
	CN961	QGB2011L1-08	B TO B CONNECTO	TO CN704(SYS)	
	CN971	QGB1216J1-06S	CONNECTOR	TO CN832(FL)	
⚠	CP951	ICP-N10-T	ICP		
	CP952	ICP-N5-T	ICP		
	D 801	SLR-342VC-T	LED	STANDBY	
⚠	D 901	S1WB/A/60-4101	BRIDGE DIODE		
	D 902	ERA18-04-T1	FR DIODE		
	D 903	ERA18-04-T1	FR DIODE		
	D 904	ERA18-04-T1	FR DIODE		
	D 908	ERA18-04-T1	FR DIODE		

⚠	Item	Parts number	Parts name	Remarks	Area
	D 910	ERA18-04-T1	FR DIODE		
	D 911	1SS133-T2	SI DIODE		
	D 950	MTZJ22C-T2	ZENER DIODE		
	D 951	ERA18-04-T1	FR DIODE		
	D 952	ERA18-04-T1	FR DIODE		
⚠	D 953	FMB-24	FUSEIODE		
⚠	D 954	ERA18-04-T1	FR DIODE		
⚠	D 956	ERA18-04-T1	FR DIODE		
	D 957	ERA18-04-T1	FR DIODE		
	D 960	MTZJ2.0A-T2	ZENER DIODE		
	D 970	1SS133-T2	SI DIODE		
	D 972	1SS133-T2	SI DIODE		
	D 973	1SS133-T2	SI DIODE		
	D 974	1SS133-T2	SI DIODE		
	D 991	MTZJ5.1C-T2	ZENER DIODE		
	FC901	QNG0003-001Z	FUSE CLIP		
	FC902	QNG0003-001Z	FUSE CLIP		
	FW802	QUM124-13Z4Z4	FLAT WIRE	TO FW841(PSW)	
	HS964	LE40505-001A	HEAT SINK		
	IC801	GP1U271X	RM RECIVER		
	IC802	M35500BGP	FL DRIVER		
	IC901	STR-G6651	IC		
	IC951	PQ05RD21	IC		
	IC953	NJM78M05FA	IC		
	K 902	QQR0601-001Z	FERRITE BEADS		
⚠	L 901	QQR1105-001	LINE FILTER		
	L 951	QQL01BK-R22Z	P COIL		
	L 952	QQR1098-001	INDUCTOR		
	L 955	QQR1098-001	INDUCTOR		
	L 957	QQR1098-001	INDUCTOR		
	L 959	QQR1098-001	INDUCTOR		
⚠	P 901	QNC0046-001	AC INLET		
	PC901	PC123F	IC(PHOTO COUPLE		
	PC902	PC123F	IC(PHOTO COUPLE		
	Q 951	2SC2060/QR/-T	TRANSISTOR		
	Q 952	KRA104M-T	D.TRANSISTOR		
	Q 953	2SA1175/FE/-T	TRANSISTOR		
	Q 964	2SB1565/EF/	TRANSISTOR		
	Q 965	2SC2785/FE/-T	TRANSISTOR		
	Q 966	2SA1175/FE/-T	TRANSISTOR		
	Q 991	2SC2785/FE/-T	TRANSISTOR		
	R 801	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 802	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 803	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 804	QRE141J-222Y	C RESISTOR	XV-525BK/521BK/523GD	
	R 805	QRE141J-222Y	C RESISTOR	XV-525BK/521BK/523GD	
	R 806	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 807	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 808	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 809	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 813	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 814	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 816	QRE141J-431Y	C RESISTOR	XV-421BK	
	R 821	QRE141J-102Y	C RESISTOR	XV-525BK/521BK/523GD	
	R 844	QRE141J-222Y	C RESISTOR	XV-421BK	
	R 845	QRE141J-431Y	C RESISTOR	430 5% 1/4W	
	R 846	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R 847	QRE141J-112Y	C RESISTOR	1.1K 5% 1/4W	
	R 848	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 900	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R 901	QRL01DJ-683X	OMF RESISTOR	68K 5% 1/1W	
	R 903	QRE141J-270Y	C RESISTOR	27 5% 1/4W	
	R 904	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R 905	QRL027J-683	OMF RESISTOR	68K 5% 1/2W	

■ **Electrical parts list (Power board)** **Block No. 01**

⚠	Item	Parts number	Parts name	Remarks	Area
	R 906	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R 907	QRT022J-R47	OMF RESISTOR	5% 1/2W	
	R 908	QRE141J-332Y	C RESISTOR	3.3K 5% 1/4W	
	R 910	QRE141J-754Y	C RESISTOR	750K 5% 1/4W	
	R 911	QRE141J-754Y	C RESISTOR	750K 5% 1/4W	
	R 952	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 953	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
⚠	R 954	QRZ9006-4R7X	F RESISTOR	4.7 1/0W	
	R 955	QRE141J-223Y	C RESISTOR	22K 5% 1/4W	
	R 956	QRE141J-100Y	C RESISTOR	10 5% 1/4W	
	R 960	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 961	QRE141J-681Y	C RESISTOR	680 5% 1/4W	
	R 962	QRE141J-105Y	C RESISTOR	1.0M 5% 1/4W	
	R 963	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 964	QRE141J-105Y	C RESISTOR	1.0M 5% 1/4W	
	R 965	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 969	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R 971	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 972	QRE141J-122Y	C RESISTOR	1.2K 5% 1/4W	
	R 973	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 974	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R 975	QRE141J-562Y	C RESISTOR	5.6K 5% 1/4W	
	R 976	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R 980	QRE141J-272Y	C RESISTOR	2.7K 5% 1/4W	
	S 801	QSW0683-001Z	PUSH SWITCH	POWER	
	S 811	QSW0683-001Z	PUSH SWITCH	3D-PHONIC	
	S 821	QSW0683-001Z	PUSH SWITCH	OPEN/CLOSE	
	S 831	QSW0683-001Z	PUSH SWITCH	STOP	
	S 832	QSW0683-001Z	PUSH SWITCH	PAUSE	
	S 833	QSW0683-001Z	PUSH SWITCH	PLAY	
	S 834	QSW0683-001Z	PUSH SWITCH	F.SKIP	
	S 835	QSW0683-001Z	PUSH SWITCH	B.SKIP	
	S 841	QVQ0123-B15	SHUTTLE VR	XV-525BK/521BK/523GD	
	S 842	QSW0683-001Z	PUSH SWITCH	XV-421BK	
	S 843	QSW0683-001Z	PUSH SWITCH	XV-421BK	
	SP802	VYH7653-002	IC HOLDER	FOR IC802	
⚠	T 901	QQS0076-001	SW TRANSF		

■ **Electrical parts list (Main board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 601	QCBB1HK-181Y	C CAPACITOR	180PF 10% 50V	
	C 603	QCS11HJ-680	C CAPACITOR	68PF 5% 50V	
	C 604	QCS11HJ-150	C CAPACITOR	15PF 5% 50V	
	C 609	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V	
	C 611	QCBB1HK-181Y	C CAPACITOR	180PF 10% 50V	
	C 613	QCS11HJ-680	C CAPACITOR	68PF 5% 50V	
	C 614	QCS11HJ-150	C CAPACITOR	15PF 5% 50V	
	C 619	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V	
	C 621	QCBB1HK-121Y	C CAPACITOR	120PF 10% 50V	
	C 623	QCS11HJ-470	C CAPACITOR	47PF 5% 50V	
	C 624	QCS11HJ-100	C CAPACITOR	10PF 5% 50V	
	C 629	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V	
	C 631	QCBB1HK-121Y	C CAPACITOR	120PF 10% 50V	
	C 633	QCS11HJ-470	C CAPACITOR	47PF 5% 50V	
	C 634	QCS11HJ-100	C CAPACITOR	10PF 5% 50V	
	C 639	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 641	QCBB1HK-121Y	C CAPACITOR	120PF 10% 50V	
	C 643	QCS11HJ-470	C CAPACITOR	47PF 5% 50V	
	C 644	QCS11HJ-100	C CAPACITOR	10PF 5% 50V	
	C 649	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V	
	C 659	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V	
	C 663	QCBB1HK-151Y	C CAPACITOR	150PF 10% 50V	
	C 699	QCBB1HK-221Y	C CAPACITOR	220PF 10% 50V	
	C 701	QETN1HM-105Z	E CAPACITOR	1.0MF 20% 50V	
	C 702	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 705	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 706	QFVC1HJ-104Z	M.M.CAPACITOR	.10MF 5% 50V	
	C 707	QETN0JM-107Z	E CAPACITOR	XV-525BK/521BK/523GD	
	C 709	QCBB1HK-331Y	C CAPACITOR	XV-525BK/521BK/523GD	
	C 710	QETN1AM-477Z	E CAPACITOR	470MF 20% 10V	
	C 711	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 712	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V	
	C 713	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 714	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V	
	C 715	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 716	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V	
	C 717	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 718	QETN0JM-477Z	E CAPACITOR	470MF 20% 6.3V	
	C 720	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 721	QCZ0205-155Z	ML C CAPACITOR	1.5MF	
	C 722	QCFB1HZ-104Y	C CAPACITOR	XV-525BK/521BK/523GD	
	C 723	QCF11HZ-473	C CAPACITOR	.047MF +80:-20%	
	C 724	QCF11HZ-103	C CAPACITOR	.010MF +80:-20%	
	C 725	QETN1CM-477Z	E CAPACITOR	470MF 20% 16V	
	C 726	QETN1CM-227Z	E CAPACITOR	220MF 20% 16V	
	C 727	QETN1AM-227Z	E CAPACITOR	220MF 20% 10V	
	C 728	QETN1AM-107Z	E CAPACITOR	100MF 20% 10V	
	C 729	QCBB1HK-271Y	C CAPACITOR	XV-525BK/521BK/523GD	
	C 730	QFVC1HJ-474Z	M.M.CAPACITOR	.47MF 5% 50V	
	C 731	QDYB1CM-103Y	C CAPACITOR		
	C 732	QDGB1HK-102Y	C CAPACITOR		
	C 733	QDGB1HK-102Y	C CAPACITOR		
	C 734	QDX31EM-473Z	C CAPACITOR		
	C 735	QCFB1HZ-104Y	C CAPACITOR	.10MF +80:-20%	
	C 736	QCFB1HZ-104Y	C CAPACITOR	XV-525BK/521BK/523GD	
	C 740	QFN32AJ-152Z	M CAPACITOR	1500PF 5% 100V	
	C 741	QCBB1HK-181Y	C CAPACITOR	180PF 10% 50V	
	C 742	QFN32AJ-333Z	M CAPACITOR	.033MF 5% 100V	
	C 743	QFN32AJ-152Z	M CAPACITOR	1500PF 5% 100V	
	C 744	QFN32AJ-182Z	M CAPACITOR	1800PF 5% 100V	
	C 745	QFN32AJ-103Z	M CAPACITOR	.010MF 5% 100V	
	C 746	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C 747	QFN32AJ-152Z	M CAPACITOR	1500PF 5% 100V	
	C 750	QFN32AJ-152Z	M CAPACITOR	1500PF 5% 100V	

⚠	Item	Parts number	Parts name	Remarks	Area
	C 751	QCBB1HK-181Y	C CAPACITOR	180PF 10% 50V	
	C 752	QFN32AJ-333Z	M CAPACITOR	.033MF 5% 100V	
	C 753	QFN32AJ-152Z	M CAPACITOR	1500PF 5% 100V	
	C 754	QFN32AJ-182Z	M CAPACITOR	1800PF 5% 100V	
	C 755	QFN32AJ-103Z	M CAPACITOR	.010MF 5% 100V	
	C 756	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C 757	QFN32AJ-152Z	M CAPACITOR	1500PF 5% 100V	
	C 761	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 762	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 771	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 772	QETN1CM-107Z	E CAPACITOR	100MF 20% 16V	
	C 773	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C 778	QETN1EM-476Z	E CAPACITOR	47MF 20% 25V	
	C 797	QDYB1CM-103Y	C CAPACITOR		
	C 798	QDYB1CM-103Y	C CAPACITOR		
	CN601	QGB2027M3-10S	CONNECTOR	TO CN503	
	CN701	QGB2027M4-22S	CONNECTOR	TO CN502(MDUL)	
	CN702	QJK021-050800	SIN CR C-B WIRE	TO	
	CN703	QGF1205C1-08	CONNECTOR	TO CN801(FL)	
	CN704	EMV5159-1008	B TO B CONNECTO	TO CN961(POWER)	
	CN705	EMV5159-1008	B TO B CONNECTO	TO CN951(POWER)	
	CN706	QGB2027M3-10S	CONNECTOR	TO CN501(MODUL)	
	D 609	1SS133-T2	SI DIODE		
	D 619	1SS133-T2	SI DIODE		
	D 629	1SS133-T2	SI DIODE		
	D 639	1SS133-T2	SI DIODE		
	D 649	1SS133-T2	SI DIODE		
	D 701	1SS133-T2	SI DIODE		
	D 709	1SS133-T2	SI DIODE	XV-525BK/521BK/523GD	
	D 731	KV1555N-T	VARI CAPACITOR		
	D 732	KV1555N-T	VARI CAPACITOR		
	D 733	MTZJ5.1C-T2	ZENER DIODE		
	D 734	ERA18-04-T1	FR DIODE		
	D 735	ERA18-04-T1	FR DIODE		
	D 791	1SS133-T2	SI DIODE		
	D 792	1SS133-T2	SI DIODE		
	D 793	MTZJ3.3B-T2	ZENER DIODE		
	FW701	QUM124-10Z4Z4	PARA RIBON WIRE	FW701 TO FW702	
	IC701	MN101C12GHA	IC	SYSTEM MICOM	
	IC702	IC-PST9140-T	IC		
	IC703	MN35503-X	IC		
	IC711	PQ05RD21	IC		
	IC712	BA6208A	IC		
	IC741	NJM4580D	IC		
	IC751	NJM4580D	IC		
	IC791	AK93C45AF-W	IC		
	IC792	TC74HC08AP	IC		
	J 601	QNN0333-001	PIN JACK	COMPONENT	
	J 702	QNS0083-001	3.5 JACK	XV-525BK/521BK/523GD	
	J 703	GP1F32T	OPTICAL JACK	XV-525BK/521BK/523GD	
	K 603	QQR0601-001Z	FERRITE BEADS		
	K 604	QQR0601-001Z	FERRITE BEADS		
	K 605	QQR0601-001Z	FERRITE BEADS		
	K 705	QQR0601-001Z	FERRITE BEADS		
	K 706	QQR0601-001Z	FERRITE BEADS		
	K 710	QQR0601-001Z	FERRITE BEADS		
	K 712	QQR0601-001Z	FERRITE BEADS		
	K 714	QQR0601-001Z	FERRITE BEADS		
	K 715	QQR0601-001Z	FERRITE BEADS		
	K 716	QQR0601-001Z	FERRITE BEADS		
	K 717	QQR0601-001Z	FERRITE BEADS		
	K 718	QQR0601-001Z	FERRITE BEADS	XV-525BK/521BK/523GD	
	L 601	QQL071J-120Y	INDUCTOR		
	L 602	QQL071J-5R6Y	INDUCTOR		

■ **Electrical parts list (Main board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	L 611	QQL071J-120Y	INDUCTOR		
	L 612	QQL071J-5R6Y	INDUCTOR		
	L 621	QQL071J-120Y	INDUCTOR		
	L 622	QQL071J-5R6Y	INDUCTOR		
	L 631	QQL071J-120Y	INDUCTOR		
	L 632	QQL071J-5R6Y	INDUCTOR		
	L 641	QQL071J-120Y	INDUCTOR		
	L 642	QQL071J-5R6Y	INDUCTOR		
	L 731	QQL071J-1R2Y	INDUCTOR		
	Q 601	2SA1175/FE/-T	TRANSISTOR		
	Q 611	2SA1175/FE/-T	TRANSISTOR		
	Q 621	2SA1175/FE/-T	TRANSISTOR		
	Q 631	2SA1175/FE/-T	TRANSISTOR		
	Q 641	2SA1175/FE/-T	TRANSISTOR		
	Q 709	KRC107M-T	D.TRANSISTOR	XV-525BK/521BK/523GD	
	Q 711	KRA102M-T	D.TRANSISTOR		
	Q 741	2SC3576-JVC-T	TRANSISTOR	FREQ	
	Q 743	2SC3576-JVC-T	TRANSISTOR	AMUTE1	
	Q 751	2SC3576-JVC-T	TRANSISTOR	FREQ	
	Q 753	2SC3576-JVC-T	TRANSISTOR	AMUTE1	
	Q 791	KRA102M-T	D.TRANSISTOR		
	R 601	QRE141J-120Y	C RESISTOR	12 5% 1/4W	
	R 602	QRE141J-361Y	C RESISTOR	360 5% 1/4W	
	R 603	QRE141J-120Y	C RESISTOR	12 5% 1/4W	
	R 604	QRE141J-361Y	C RESISTOR	360 5% 1/4W	
	R 605	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R 606	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 609	QRE141J-680Y	C RESISTOR	68 5% 1/4W	
	R 611	QRE141J-120Y	C RESISTOR	12 5% 1/4W	
	R 612	QRE141J-361Y	C RESISTOR	360 5% 1/4W	
	R 613	QRE141J-120Y	C RESISTOR	12 5% 1/4W	
	R 614	QRE141J-361Y	C RESISTOR	360 5% 1/4W	
	R 615	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R 616	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 619	QRE141J-680Y	C RESISTOR	68 5% 1/4W	
	R 621	QRE141J-751Y	C RESISTOR	750 5% 1/4W	
	R 622	QRE141J-751Y	C RESISTOR	750 5% 1/4W	
	R 623	QRE141J-751Y	C RESISTOR	750 5% 1/4W	
	R 624	QRE141J-751Y	C RESISTOR	750 5% 1/4W	
	R 625	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R 626	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R 629	QRE141J-680Y	C RESISTOR	68 5% 1/4W	
	R 632	QRE141J-361Y	C RESISTOR	360 5% 1/4W	
	R 634	QRE141J-361Y	C RESISTOR	360 5% 1/4W	
	R 635	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R 636	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 639	QRE141J-680Y	C RESISTOR	68 5% 1/4W	
	R 641	QRE141J-751Y	C RESISTOR	750 5% 1/4W	
	R 642	QRE141J-751Y	C RESISTOR	750 5% 1/4W	
	R 643	QRE141J-751Y	C RESISTOR	750 5% 1/4W	
	R 644	QRE141J-751Y	C RESISTOR	750 5% 1/4W	
	R 645	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R 646	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R 649	QRE141J-680Y	C RESISTOR	68 5% 1/4W	
	R 659	QRE141J-680Y	C RESISTOR	68 5% 1/4W	
	R 687	QRE141J-270Y	C RESISTOR	27 5% 1/4W	
	R 701	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 702	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 703	QRE141J-105Y	C RESISTOR	1.0M 5% 1/4W	
	R 704	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 705	QRE141J-2R2Y	C RESISTOR	XV-525BK/521BK/523GD	
	R 707	QRE141J-101Y	C RESISTOR	XV-525BK/521BK/523GD	
	R 708	QRE141J-101Y	C RESISTOR	XV-525BK/521BK/523GD	
	R 709	QRE141J-103Y	C RESISTOR	XV-525BK/521BK/523GD	

⚠	Item	Parts number	Parts name	Remarks	Area
	R 711	QRE141J-560Y	C RESISTOR	56 5% 1/4W	
	R 712	QRE141J-560Y	C RESISTOR	56 5% 1/4W	
	R 713	QRE141J-560Y	C RESISTOR	56 5% 1/4W	
	R 714	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R 715	QRE141J-560Y	C RESISTOR	56 5% 1/4W	
	R 716	QRE141J-152Y	C RESISTOR	1.5K 5% 1/4W	
	R 717	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R 721	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 722	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 723	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 724	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 725	QRE141J-511Y	C RESISTOR	510 5% 1/4W	
	R 726	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 727	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 728	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 729	QRE141J-471Y	C RESISTOR	470 5% 1/4W	
	R 730	QRE141J-333Y	C RESISTOR	33K 5% 1/4W	
	R 731	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 732	QRE141J-333Y	C RESISTOR	33K 5% 1/4W	
	R 733	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 734	QRE141J-333Y	C RESISTOR	33K 5% 1/4W	
	R 735	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 736	QRE141J-181Y	C RESISTOR	180 5% 1/4W	
	R 737	QRE141J-104Y	C RESISTOR	100K 5% 1/4W	
	R 738	QRE141J-153Y	C RESISTOR	15K 5% 1/4W	
	R 739	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R 740	QRE141J-243Y	C RESISTOR	24K 5% 1/4W	
	R 741	QRE141J-243Y	C RESISTOR	24K 5% 1/4W	
	R 742	QRE141J-163Y	C RESISTOR	16K 5% 1/4W	
	R 743	QRE141J-163Y	C RESISTOR	16K 5% 1/4W	
	R 744	QRE141J-682Y	C RESISTOR	6.8K 5% 1/4W	
	R 745	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	
	R 746	QRE141J-821Y	C RESISTOR	820 5% 1/4W	
	R 747	QRE141J-362Y	C RESISTOR	3.6K 5% 1/4W	
	R 748	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R 749	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 750	QRE141J-243Y	C RESISTOR	24K 5% 1/4W	
	R 751	QRE141J-243Y	C RESISTOR	24K 5% 1/4W	
	R 752	QRE141J-163Y	C RESISTOR	16K 5% 1/4W	
	R 753	QRE141J-163Y	C RESISTOR	16K 5% 1/4W	
	R 754	QRE141J-682Y	C RESISTOR	6.8K 5% 1/4W	
	R 755	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	
	R 756	QRE141J-821Y	C RESISTOR	820 5% 1/4W	
	R 757	QRE141J-362Y	C RESISTOR	3.6K 5% 1/4W	
	R 758	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R 759	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 760	QRE141J-105Y	C RESISTOR	1.0M 5% 1/4W	
	R 761	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R 762	QRE141J-821Y	C RESISTOR	820 5% 1/4W	
	R 764	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	
	R 765	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R 766	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R 767	QRE141J-151Y	C RESISTOR	150 5% 1/4W	
	R 768	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 770	QRE141J-105Y	C RESISTOR	1.0M 5% 1/4W	
	R 771	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R 772	QRE141J-821Y	C RESISTOR	820 5% 1/4W	
	R 774	QRE141J-183Y	C RESISTOR	18K 5% 1/4W	
	R 775	QRE141J-561Y	C RESISTOR	560 5% 1/4W	
	R 776	QRE141J-273Y	C RESISTOR	27K 5% 1/4W	
	R 777	QRE141J-151Y	C RESISTOR	150 5% 1/4W	
	R 778	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R 782	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
⚠	R 783	QRE141J-221Y	C RESISTOR	220 5% 1/4W	

■ **Electrical parts list (Main board)** **Block No. 02**

⚠	Item	Parts number	Parts name	Remarks	Area
	R 786	QRE141J-333Y	C RESISTOR	33K 5% 1/4W	
	R 792	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R 793	QRE141J-221Y	C RESISTOR	220 5% 1/4W	
	R 796	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R 797	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R 798	QRE141J-473Y	C RESISTOR	47K 5% 1/4W	
	R1701	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1702	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1703	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1704	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1706	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1707	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1708	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1709	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1710	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1711	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1712	QRE141J-331Y	C RESISTOR	330 5% 1/4W	
	R1713	QRE141J-101Y	C RESISTOR	100 5% 1/4W	
	R1714	QRE141J-472Y	C RESISTOR	4.7K 5% 1/4W	
	R1715	QRE141J-103Y	C RESISTOR	10K 5% 1/4W	
	R1716	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1717	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1720	QRE141J-750Y	C RESISTOR	75 5% 1/4W	
	R1723	QRE141J-221Y	C RESISTOR	XV-525BK/521BK/523GD	
	R1724	QRE141J-331Y	C RESISTOR	330 5% 1/4W	
	R1726	QRE141J-222Y	C RESISTOR	2.2K 5% 1/4W	
	R1730	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1731	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	R1732	QRE141J-102Y	C RESISTOR	1.0K 5% 1/4W	
	SP701	VYH7653-001	IC HOLDER	FOR IC701	
	SP703	VYH7653-003SC	IC HOLDER	FOR IC703	
	T 601	QQR0880-001	PULSE TRANS		
	X 701	QAX0356-001Z	RESONATOR		

■ **Electrical parts list (DVD servo board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 1	NCB31CK-104X	C CAPACITOR		
	C 2	NEA70JM-226X	E CAPACITOR		
	C 3	NEA70JM-226X	E CAPACITOR		
	C 4	NCB31CK-104X	C CAPACITOR		
	C 5	NEX40JM-156X	E CAPACITOR		
	C 6	NCB31CK-104X	C CAPACITOR		
	C 11	NEA70JM-107X	E CAPACITOR		
	C 12	NCB31CK-104X	C CAPACITOR		
	C 15	NCB31CK-104X	C CAPACITOR		
	C 16	NBE20JM-106X	TS E CAP SVB20J		
	C 17	NCB31CK-104X	C CAPACITOR		
	C 101	NCB31HK-561X	C CAPACITOR		
	C 102	NCB31CK-104X	C CAPACITOR		
	C 103	NCB31CK-104X	C CAPACITOR		
	C 104	NCB31CK-104X	C CAPACITOR		
	C 105	NCB31CK-104X	C CAPACITOR		
	C 109	NEA70JM-476X	E CAPACITOR		
	C 112	NEA70JM-476X	E CAPACITOR		
	C 118	NCB21CK-154X	C CAPACITOR		
	C 119	NCS31HJ-221X	C CAPACITOR		
	C 120	NCS31HJ-820X	C CAPACITOR		
	C 121	NCS31HJ-220X	C CAPACITOR		
	C 122	NCB31HK-271X	C CAPACITOR		
	C 123	NCB31CK-104X	C CAPACITOR		
	C 124	NCB31CK-104X	C CAPACITOR		
	C 125	NCB31CK-104X	C CAPACITOR		
	C 126	NEX40JM-566X	E CAPACITOR		
	C 127	NCB31HK-102X	C CAPACITOR		
	C 128	NCB31CK-104X	C CAPACITOR		
	C 130	NCB31CK-104X	C CAPACITOR		
	C 131	NCS31HJ-120X	C CAPACITOR		
	C 132	NCB31CK-104X	C CAPACITOR		
	C 133	NCB31HK-561X	C CAPACITOR		
	C 134	NCB31HK-561X	C CAPACITOR		
	C 135	NCB31CK-273X	C CAPACITOR		
	C 136	NCB31CK-473X	C CAPACITOR		
	C 138	NCB31CK-104X	C CAPACITOR		
	C 139	NCB31CK-104X	C CAPACITOR		
	C 140	NEA70JM-226X	E CAPACITOR		
	C 141	NCB31CK-104X	C CAPACITOR		
	C 143	NCB31CK-104X	C CAPACITOR		
	C 144	NCB31CK-104X	C CAPACITOR		
	C 145	NCB31CK-103X	C CAPACITOR		
	C 151	NEX40JM-156X	E CAPACITOR		
	C 152	NEX40JM-156X	E CAPACITOR		
	C 153	NCB31CK-104X	C CAPACITOR		
	C 159	NCB31CK-104X	C CAPACITOR		
	C 160	NCB31CK-104X	C CAPACITOR		
	C 161	NEA70GM-336X	E CAPACITOR		
	C 202	NCB31HK-561X	C CAPACITOR		
	C 203	NCB31HK-561X	C CAPACITOR		
	C 204	NCB31HK-331X	C CAPACITOR		
	C 205	NCS31HJ-121X	C CAPACITOR		
	C 206	NCS31HJ-271X	C CAPACITOR		
	C 207	NCB31HK-471X	C CAPACITOR		
	C 208	NCB31CK-104X	C CAPACITOR		
	C 209	NCB31HK-102X	C CAPACITOR		
	C 210	NCB31HK-102X	C CAPACITOR		
	C 222	NCB31HK-562X	C CAPACITOR		
	C 223	NCB31HK-102X	C CAPACITOR		
	C 224	NCB31CK-104X	C CAPACITOR		
	C 225	NBE91CM-105X	E CAPACITOR		
	C 227	NCB31HK-102X	C CAPACITOR		
	C 228	NCB31HK-102X	C CAPACITOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	C 237	NCB31CK-104X	C CAPACITOR		
	C 238	NCB31CK-104X	C CAPACITOR		
	C 239	NCB31CK-183X	C CAPACITOR		
	C 240	NCS31HJ-470X	C CAPACITOR		
	C 241	NCB31CK-103X	C CAPACITOR		
	C 242	NCB11CK-105X	C CAPACITOR		
	C 244	NCB31CK-104X	C CAPACITOR		
	C 245	NCB31CK-103X	C CAPACITOR		
	C 246	NCB31CK-104X	C CAPACITOR		
	C 247	NCB31CK-104X	C CAPACITOR		
	C 248	NCB21CK-154X	C CAPACITOR		
	C 249	NCB31CK-104X	C CAPACITOR		
	C 250	NCB31CK-104X	C CAPACITOR		
	C 251	NCB31CK-104X	C CAPACITOR		
	C 252	NCB31CK-104X	C CAPACITOR		
	C 253	NCB31CK-104X	C CAPACITOR		
	C 254	NEA70GM-336X	E CAPACITOR		
	C 255	NCB31CK-104X	C CAPACITOR		
	C 256	NEA70GM-107X	E CAPACITOR		
	C 257	NCB11CK-105X	C CAPACITOR		
	C 258	NEA70GM-107X	E CAPACITOR		
	C 259	NCB11CK-105X	C CAPACITOR		
	C 260	NCB31HK-561X	C CAPACITOR		
	C 261	NCB31CK-104X	C CAPACITOR		
	C 262	NCB31CK-104X	C CAPACITOR		
	C 263	NCB31CK-104X	C CAPACITOR		
	C 264	NCB21CK-474X	C CAPACITOR		
	C 271	NCB31EK-332X	C CAPACITOR		
	C 272	NCB31HK-331X	C CAPACITOR		
	C 276	NCB31CK-104X	C CAPACITOR		
	C 277	NCB31CK-104X	C CAPACITOR		
	C 278	NCB31HK-102X	C CAPACITOR		
	C 279	NCB31HK-272X	C CAPACITOR		
	C 281	NCB31CK-103X	C CAPACITOR		
	C 283	NCB31CK-223X	C CAPACITOR		
	C 284	NCB31CK-473X	C CAPACITOR		
	C 288	NCB31CK-223X	C CAPACITOR		
	C 289	NCB31CK-104X	C CAPACITOR		
	C 291	NCB31CK-104X	C CAPACITOR		
	C 292	NEA70JM-226X	E CAPACITOR		
	C 293	NEA71CM-226X	E CAPACITOR		
	C 301	NCB31CK-104X	C CAPACITOR		
	C 302	NCB31CK-104X	C CAPACITOR		
	C 303	NCB31CK-104X	C CAPACITOR		
	C 304	NCB31CK-104X	C CAPACITOR		
	C 305	NCB31CK-104X	C CAPACITOR		
	C 306	NCB31CK-104X	C CAPACITOR		
	C 307	NCB31CK-104X	C CAPACITOR		
	C 309	NCB31CK-104X	C CAPACITOR		
	C 310	NCB31CK-104X	C CAPACITOR		
	C 311	NCB31CK-104X	C CAPACITOR		
	C 312	NCS31HJ-180X	C CAPACITOR		
	C 313	NCS31HJ-180X	C CAPACITOR		
	C 314	NCB31CK-104X	C CAPACITOR		
	C 315	NCB31CK-104X	C CAPACITOR		
	C 316	NEA70GM-107X	E CAPACITOR		
	C 317	NCB11CK-105X	C CAPACITOR		
	C 318	NCB31CK-104X	C CAPACITOR		
	C 319	NCB31CK-104X	C CAPACITOR		
	C 320	NCB31CK-104X	C CAPACITOR		
	C 321	NCB31CK-104X	C CAPACITOR		
	C 324	NCB31CK-104X	C CAPACITOR		
	C 326	NCB31CK-104X	C CAPACITOR		
	C 327	NEA70GM-107X	E CAPACITOR		

■ **Electrical parts list (DVD servo board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 341	NCB31CK-104X	C CAPACITOR		
	C 342	NCB31CK-104X	C CAPACITOR		
	C 343	NCB31CK-104X	C CAPACITOR		
	C 344	NCB31CK-104X	C CAPACITOR		
	C 345	NEA70JM-107X	E.CAPACITOR		
	C 346	NCB11CK-105X	C CAPACITOR		
	C 373	NCB31CK-104X	C CAPACITOR		
	C 401	NCB31CK-104X	C CAPACITOR		
	C 402	NCB31CK-104X	C CAPACITOR		
	C 405	NCB31CK-104X	C CAPACITOR		
	C 406	NCB31CK-104X	C CAPACITOR		
	C 407	NCB31CK-104X	C CAPACITOR		
	C 408	NEA70JM-226X	E CAPACITOR		
	C 409	NCB31CK-104X	C CAPACITOR		
	C 411	NCB31CK-104X	C CAPACITOR		
	C 412	NCB31CK-104X	C CAPACITOR		
	C 501	NCB31CK-104X	C CAPACITOR		
	C 502	NCB31CK-104X	C CAPACITOR		
	C 503	NCB31CK-104X	C CAPACITOR		
	C 504	NCB31CK-104X	C CAPACITOR		
	C 505	NCB31CK-104X	C CAPACITOR		
	C 506	NCB31CK-104X	C CAPACITOR		
	C 507	NCB31CK-104X	C CAPACITOR		
	C 508	NCB31CK-104X	C CAPACITOR		
	C 509	NCB31CK-104X	C CAPACITOR		
	C 510	NCB31CK-104X	C CAPACITOR		
	C 511	NCB31CK-104X	C CAPACITOR		
	C 512	NCB31CK-104X	C CAPACITOR		
	C 513	NCB31CK-104X	C CAPACITOR		
	C 514	NCB31CK-104X	C CAPACITOR		
	C 515	NCB31CK-104X	C CAPACITOR		
	C 516	NCB31CK-104X	C CAPACITOR		
	C 517	NCB31CK-104X	C CAPACITOR		
	C 518	NCB31CK-104X	C CAPACITOR		
	C 519	NCB31CK-104X	C CAPACITOR		
	C 520	NCB31CK-104X	C CAPACITOR		
	C 521	NCB31CK-104X	C CAPACITOR		
	C 522	NCB31CK-104X	C CAPACITOR		
	C 523	NCB31CK-104X	C CAPACITOR		
	C 524	NCB31CK-104X	C CAPACITOR		
	C 525	NCB31CK-104X	C CAPACITOR		
	C 526	NCB31CK-104X	C CAPACITOR		
	C 527	NCB31CK-104X	C CAPACITOR		
	C 528	NCB31CK-104X	C CAPACITOR		
	C 529	NCB31CK-104X	C CAPACITOR		
	C 530	NEA70JM-107X	E CAPACITOR		
	C 531	NCB31CK-104X	C CAPACITOR		
	C 532	NCB31CK-104X	C CAPACITOR		
	C 533	NCB31CK-104X	C CAPACITOR		
	C 534	NEA70JM-107X	E CAPACITOR		
	C 535	NCB31CK-104X	C CAPACITOR		
	C 536	NCB31CK-103X	C CAPACITOR		
	C 537	NEA70JM-226X	E CAPACITOR		
	C 538	NCB31CK-104X	C CAPACITOR		
	C 539	NCB31CK-104X	C CAPACITOR		
	C 540	NEA70JM-226X	E CAPACITOR		
	C 541	NCB31CK-104X	C CAPACITOR		
	C 542	NEA70JM-226X	E CAPACITOR		
	C 543	NCB31CK-104X	C CAPACITOR		
	C 556	NEA70JM-107X	E CAPACITOR		
	C 557	NCB31CK-104X	C CAPACITOR		
	C 561	NCB31CK-104X	C CAPACITOR		
	C 562	NEA70JM-226X	E CAPACITOR		
	C 563	NCB31CK-104X	C CAPACITOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	C 564	NCB31CK-104X	C CAPACITOR		
	C 565	NCB31CK-104X	C CAPACITOR		
	C 566	NCB31CK-104X	C CAPACITOR		
	C 567	NEA70JM-226X	E CAPACITOR		
	C 568	NCB31CK-104X	C CAPACITOR		
	C 569	NEA70JM-226X	E CAPACITOR		
	C 570	NCB31CK-104X	C CAPACITOR		
	CN101	QGF0501F3-40X	FFC/FPC CONNE	PU	
	CN501	QGB2027L1-10X	W TO B CONNE	POWER	
	CN502	QGB2027L1-22X	CONNECTOR	SYSTEM	
	CN503	QGB2027L1-10X	W TO B CONNE	VIDEO	
	D 501	1SR154-400-X	DIODE		
	D 551	1SS355-X	DIODE		
	D 552	1SS355-X	DIODE		
	IC 1	RN5RZ33BA-X	IC		
	IC101	AN8702FH	IC		
	IC102	RN5RZ33BA-X	IC		
	IC201	MN67706ZY	IC		
	IC202	TC7WT125FU-X	IC(DIGITAL)		
	IC271	M56788FP-W	IC		
	IC301	MN103S13BDA	IC		
	IC311	TC7SH08FU-X	IC		
	IC312	TC7SH32FU-X	IC		
	IC321	TC7WH74FU-X	IC		
	IC322	TC74VHC00FT-X	IC		
	IC401	MN102L25GDZ3	IC	OTP	
	IC402	MSM531622F83G-X	IC		
	IC403	AK93C65AF-X	IC		
	IC501	ZIVA3-PE0	IC		
	IC502	NAX0393-001X	CXO C.M	27MHZ	
	IC503	TC74VHC00FT-X	IC		
	IC504	HY57V161610DTC8	IC		
	IC505	HY57V161610DTC8	IC		
	IC554	MC44724AVFU	IC		
	K 102	NQR0007-002X	FERRITE BEADS		
	K 103	NQR0007-002X	FERRITE BEADS		
	K 201	NQR0007-002X	FERRITE BEADS		
	K 202	NQR0007-002X	FERRITE BEADS		
	K 203	NQR0007-002X	FERRITE BEADS		
	K 301	NQR0007-002X	FERRITE BEADS		
	K 302	NQR0007-002X	FERRITE BEADS		
	K 303	NQR0007-002X	FERRITE BEADS		
	K 401	NQR0007-002X	FERRITE BEADS		
	K 402	NQR0007-002X	FERRITE BEADS		
	K 501	NQR0007-002X	FERRITE BEADS		
	K 502	NQR0007-002X	FERRITE BEADS		
	K 503	NQR0007-002X	FERRITE BEADS		
	K 504	NQR0201-001X	FERRITE BEADS		
	K 505	NQR0269-001X	FERRITE BEADS		
	K 506	NQR0007-002X	FERRITE BEADS		
	K 507	NQR0007-002X	FERRITE BEADS		
	K 550	NQR0007-002X	FERRITE BEADS		
	K 551	NQR0007-002X	FERRITE BEADS		
	K 553	NQR0007-002X	FERRITE BEADS		
	K 554	NQR0007-002X	FERRITE BEADS		
	K 555	NQR0007-002X	FERRITE BEADS		
	K 556	NQR0007-002X	FERRITE BEADS		
	K 557	NQR0007-002X	FERRITE BEADS		
	K 558	NQR0007-002X	FERRITE BEADS		
	K 559	NQR0007-002X	FERRITE BEADS		
	K 561	NQR0007-002X	FERRITE BEADS		
	K 562	NQR0007-002X	FERRITE BEADS		
	K 563	NQR0007-002X	FERRITE BEADS		
	K 564	NQR0007-002X	FERRITE BEADS		

■ **Electrical parts list (DVD servo board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	K 565	NQR0007-002X	FERRITE BEADS		
	K 566	NQR0007-002X	FERRITE BEADS		
	K 567	NQR0007-002X	FERRITE BEADS		
	K 568	NQR0007-002X	FERRITE BEADS		
	K 569	NQR0007-002X	FERRITE BEADS		
	K 570	NQR0007-002X	FERRITE BEADS		
	K 571	NQR0007-002X	FERRITE BEADS		
	K 572	NQR0007-002X	FERRITE BEADS		
	K 574	NQR0007-002X	FERRITE BEADS		
	K 575	NQR0007-002X	FERRITE BEADS		
	K 576	NQR0007-002X	FERRITE BEADS		
	K 577	NQR0007-002X	FERRITE BEADS		
	K 578	NQR0007-002X	FERRITE BEADS		
	K 579	NQR0007-002X	FERRITE BEADS		
	L 1	NQL044K-100X	INDUCTOR		
	Q 1	2SD2150/RS/-W	POW TRANSISTOR		
	Q 101	2SB1424/QR/-X	TRANSISTOR		
	Q 102	2SB1424/QR/-X	TRANSISTOR		
	Q 275	DTC144EE-X	TRANSISTOR		
	R 1	NRSA63J-100X	MG RESISTOR		
	R 103	NRS125J-270X	MG RESISTOR		
	R 104	NRS125J-270X	MG RESISTOR		
	R 107	NRSA63J-0R0X	MG RESISTOR		
	R 108	NRSA63J-183X	MG RESISTOR		
	R 109	NRSA63J-0R0X	MG RESISTOR		
	R 110	NRSA63J-273X	MG RESISTOR		
	R 111	NRSA63J-0R0X	MG RESISTOR		
	R 112	NRSA63J-273X	MG RESISTOR		
	R 113	NRSA63J-682X	MG RESISTOR		
	R 114	NRSA63J-102X	MG RESISTOR		
	R 115	NRVA63D-243X	MG RESISTOR		
	R 116	NRSA63J-393X	MG RESISTOR		
	R 117	NRSA63J-123X	MG RESISTOR		
	R 118	NRSA63J-223X	MG RESISTOR		
	R 121	NRSA63J-0R0X	MG RESISTOR		
	R 122	NRSA63J-0R0X	MG RESISTOR		
	R 123	NRSA63J-0R0X	MG RESISTOR		
	R 124	NRSA63J-0R0X	MG RESISTOR		
	R 125	NRSA63J-0R0X	MG RESISTOR		
	R 126	NRSA63J-0R0X	MG RESISTOR		
	R 127	NRSA63J-222X	MG RESISTOR		
	R 128	NRSA63J-105X	MG RESISTOR		
	R 129	NRSA63J-105X	MG RESISTOR		
	R 131	NRSA63J-822X	MG RESISTOR		
	R 132	NRSA63J-103X	MG RESISTOR		
	R 144	NRSA63J-333X	MG RESISTOR		
	R 145	NRSA63J-103X	MG RESISTOR		
	R 152	NRS125J-1R0X	MG RESISTOR		
	R 153	NRS125J-4R7X	MG RESISTOR		
	R 155	NRSA63J-0R0X	MG RESISTOR		
	R 156	NRSA63J-333X	MG RESISTOR		
	R 160	NRSA63J-0R0X	MG RESISTOR		
	R 161	NRSA63J-0R0X	MG RESISTOR		
	R 162	NRSA63J-0R0X	MG RESISTOR		
	R 163	NRSA63J-0R0X	MG RESISTOR		
	R 166	NRSA63J-182X	MG RESISTOR		
	R 202	NRSA63J-473X	MG RESISTOR		
	R 203	NRSA63J-473X	MG RESISTOR		
	R 204	NRSA63J-473X	MG RESISTOR		
	R 205	NRSA63J-473X	MG RESISTOR		
	R 208	NRSA63J-473X	MG RESISTOR		
	R 209	NRSA63J-123X	MG RESISTOR		
	R 210	NRSA63J-473X	MG RESISTOR		
	R 211	NRSA63J-273X	MG RESISTOR		

⚠	Item	Parts number	Parts name	Remarks	Area
	R 212	NRSA63J-273X	MG RESISTOR		
	R 213	NRSA63J-562X	MG RESISTOR		
	R 214	NRSA63J-123X	MG RESISTOR		
	R 215	NRSA63J-105X	MG RESISTOR		
	R 218	NRSA63J-153X	MG RESISTOR		
	R 219	NRSA63J-473X	MG RESISTOR		
	R 220	NRSA63J-473X	MG RESISTOR		
	R 223	NRSA63J-473X	MG RESISTOR		
	R 224	NRSA63J-0R0X	MG RESISTOR		
	R 225	NRSA63J-682X	MG RESISTOR		
	R 227	NRSA63J-102X	MG RESISTOR		
	R 228	NRSA63J-183X	MG RESISTOR		
	R 229	NRSA63J-273X	MG RESISTOR		
	R 230	NRSA63J-273X	MG RESISTOR		
	R 232	NRSA63J-472X	MG RESISTOR		
	R 233	NRSA63J-472X	MG RESISTOR		
	R 234	NRSA63J-472X	MG RESISTOR		
	R 235	NRSA63J-0R0X	MG RESISTOR		
	R 237	NRSA63J-221X	MG RESISTOR		
	R 238	NRSA63J-221X	MG RESISTOR		
	R 239	NRSA63J-221X	MG RESISTOR		
	R 240	NRSA63J-221X	MG RESISTOR		
	R 241	NRSA63J-221X	MG RESISTOR		
	R 242	NRSA63J-102X	MG RESISTOR		
	R 243	NRSA63J-102X	MG RESISTOR		
	R 244	NRSA63J-102X	MG RESISTOR		
	R 245	NRSA63J-102X	MG RESISTOR		
	R 246	NRSA63J-102X	MG RESISTOR		
	R 248	NRSA63J-473X	MG RESISTOR		
	R 249	NRSA63J-473X	MG RESISTOR		
	R 250	NRSA63J-473X	MG RESISTOR		
	R 253	NRS125J-4R7X	MG RESISTOR		
	R 255	NRSA63J-123X	MG RESISTOR		
	R 256	NRSA63J-0R0X	MG RESISTOR		
	R 257	NRSA63J-0R0X	MG RESISTOR		
	R 271	NRSA63J-563X	MG RESISTOR		
	R 272	NRSA63J-103X	MG RESISTOR		
	R 273	NRS125J-1R0X	MG RESISTOR		
	R 274	NRSA63J-0R0X	MG RESISTOR		
	R 275	NRSA63J-103X	MG RESISTOR		
	R 276	NRSA63J-103X	MG RESISTOR		
	R 277	NRSA63J-103X	MG RESISTOR		
	R 278	NRSA63J-103X	MG RESISTOR		
	R 279	NRSA63J-103X	MG RESISTOR		
	R 280	NRSA63J-103X	MG RESISTOR		
	R 282	NRSA63J-103X	MG RESISTOR		
	R 283	NRSA63J-103X	MG RESISTOR		
	R 284	NRSA63J-472X	MG RESISTOR		
	R 285	NRSA63J-103X	MG RESISTOR		
	R 286	NRSA63J-103X	MG RESISTOR		
	R 287	NRSA63J-103X	MG RESISTOR		
	R 288	NRSA63J-103X	MG RESISTOR		
	R 289	NRSA63J-103X	MG RESISTOR		
	R 290	NRSA63J-103X	MG RESISTOR		
	R 292	NRSA63J-223X	MG RESISTOR		
	R 295	NRSA63J-103X	MG RESISTOR		
	R 296	NRSA63J-103X	MG RESISTOR		
	R 297	NRS125J-1R0X	MG RESISTOR		
	R 301	NRSA63J-473X	MG RESISTOR		
	R 302	NRSA63J-473X	MG RESISTOR		
	R 303	NRSA63J-473X	MG RESISTOR		
	R 304	NRSA63J-473X	MG RESISTOR		
	R 305	NRSA63J-473X	MG RESISTOR		
	R 306	NRSA63J-473X	MG RESISTOR		

■ **Electrical parts list (DVD servo board)** **Block No. 03**

⚠	Item	Parts number	Parts name	Remarks	Area
	R 307	NRSA63J-473X	MG RESISTOR		
	R 308	NRSA63J-473X	MG RESISTOR		
	R 309	NRSA63J-103X	MG RESISTOR		
	R 310	NRSA63J-102X	MG RESISTOR		
	R 311	NRSA63J-102X	MG RESISTOR		
	R 312	NRSA63J-102X	MG RESISTOR		
	R 316	NRSA63J-105X	MG RESISTOR		
	R 317	NRSA63J-0R0X	MG RESISTOR		
	R 318	NRSA63J-0R0X	MG RESISTOR		
	R 322	NRSA63J-473X	MG RESISTOR		
	R 324	NRSA63J-473X	MG RESISTOR		
	R 328	NRSA63J-473X	MG RESISTOR		
	R 342	NRSA63J-0R0X	MG RESISTOR		
	R 343	NRSA63J-102X	MG RESISTOR		
	R 345	NRSA63J-562X	MG RESISTOR		
	R 346	NRSA63J-472X	MG RESISTOR		
	R 347	NRSA63J-102X	MG RESISTOR		
	R 348	NRSA63J-102X	MG RESISTOR		
	R 349	NRSA63J-102X	MG RESISTOR		
	R 350	NRSA63J-102X	MG RESISTOR		
	R 364	NRSA63J-0R0X	MG RESISTOR		
	R 403	NRSA63J-472X	MG RESISTOR		
	R 405	NRSA63J-472X	MG RESISTOR		
	R 408	NRSA63J-472X	MG RESISTOR		
	R 410	NRSA63J-0R0X	MG RESISTOR		
	R 411	NRSA63J-472X	MG RESISTOR		
	R 412	NRSA63J-103X	MG RESISTOR		
	R 413	NRSA63J-472X	MG RESISTOR		
	R 414	NRSA63J-472X	MG RESISTOR		
	R 415	NRSA63J-472X	MG RESISTOR		
	R 416	NRSA63J-472X	MG RESISTOR		
	R 417	NRSA63J-472X	MG RESISTOR		
	R 418	NRSA63J-472X	MG RESISTOR		
	R 422	NRSA63J-0R0X	MG RESISTOR		
	R 423	NRSA63J-0R0X	MG RESISTOR	XV-525BK/521BK/523GD	
	R 424	NRSA63J-0R0X	MG RESISTOR	XV-525BK/521BK/523GD	
	R 431	NRSA63J-472X	MG RESISTOR		
	R 432	NRSA63J-472X	MG RESISTOR		
	R 501	NRSA63J-102X	MG RESISTOR		
	R 502	NRSA63J-222X	MG RESISTOR		
	R 504	NRSA63J-330X	MG RESISTOR		
	R 505	NRSA63J-330X	MG RESISTOR		
	R 506	NRSA63J-330X	MG RESISTOR		
	R 507	NRSA63J-330X	MG RESISTOR		
	R 508	NRSA63J-330X	MG RESISTOR		
	R 509	NRSA63J-330X	MG RESISTOR		
	R 510	NRSA63J-330X	MG RESISTOR		
	R 511	NRSA63J-330X	MG RESISTOR		
	R 512	NRSA63J-330X	MG RESISTOR		
	R 513	NRSA63J-330X	MG RESISTOR		
	R 514	NRSA63J-330X	MG RESISTOR		
	R 515	NRSA63J-330X	MG RESISTOR		
	R 516	NRSA63J-330X	MG RESISTOR		
	R 517	NRSA63J-330X	MG RESISTOR		
	R 518	NRSA63J-330X	MG RESISTOR		
	R 519	NRSA63J-330X	MG RESISTOR		
	R 520	NRSA63J-330X	MG RESISTOR		
	R 521	NRSA63J-330X	MG RESISTOR		
	R 522	NRSA63J-330X	MG RESISTOR		
	R 523	NRSA63J-181X	MG RESISTOR		
	R 524	NRSA63J-181X	MG RESISTOR		
	R 525	NRSA63J-181X	MG RESISTOR		
	R 526	NRSA63J-181X	MG RESISTOR		
	R 527	NRSA63J-181X	MG RESISTOR		

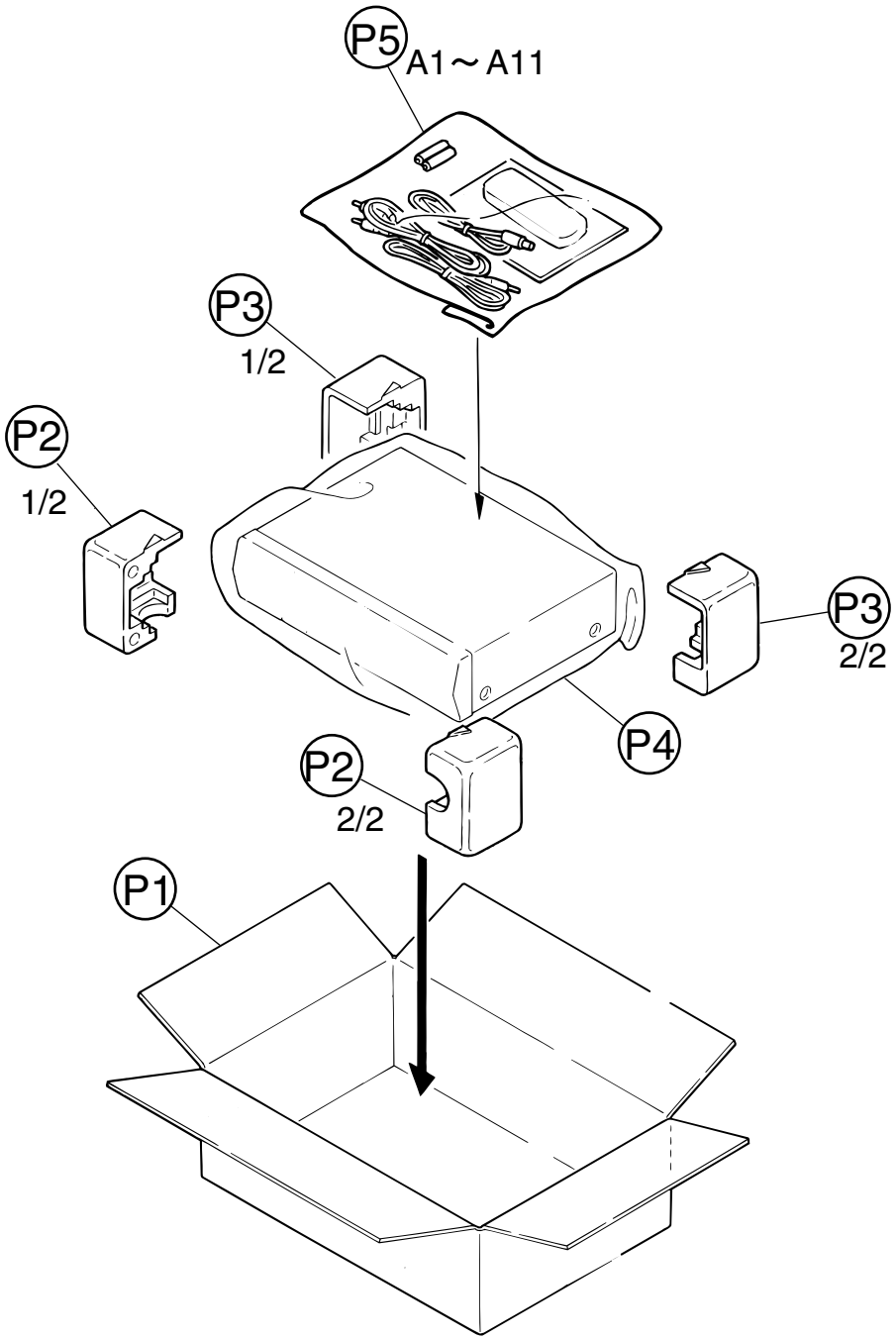
⚠	Item	Parts number	Parts name	Remarks	Area
	R 528	NRSA63J-181X	MG RESISTOR		
	R 529	NRSA63J-181X	MG RESISTOR		
	R 530	NRSA63J-181X	MG RESISTOR		
	R 531	NRSA63J-330X	MG RESISTOR		
	R 532	NRSA63J-0R0X	MG RESISTOR		
	R 533	NRSA63J-330X	MG RESISTOR		
	R 534	NRSA63J-330X	MG RESISTOR		
	R 535	NRSA63J-330X	MG RESISTOR		
	R 536	NRSA63J-330X	MG RESISTOR		
	R 537	NRSA63J-330X	MG RESISTOR		
	R 538	NRSA63J-330X	MG RESISTOR		
	R 539	NRSA63J-330X	MG RESISTOR		
	R 540	NRSA63J-330X	MG RESISTOR		
	R 541	NRSA63J-0R0X	MG RESISTOR		
	R 542	NRSA63J-0R0X	MG RESISTOR		
	R 543	NRSA63J-0R0X	MG RESISTOR		
	R 544	NRSA63J-0R0X	MG RESISTOR		
	R 545	NRSA63J-472X	MG RESISTOR		
	R 547	NRSA63J-222X	MG RESISTOR		
	R 548	NRSA63J-332X	MG RESISTOR		
	R 550	NRSA63J-0R0X	MG RESISTOR		
	R 564	NRVA63D-152X	MG RESISTOR		
	R 565	NRVA63D-332X	MF RESISTOR		
	R 571	NRSA63J-100X	MG RESISTOR		
	R 572	NRSA63J-181X	MG RESISTOR		
	R 573	NRSA63J-181X	MG RESISTOR		
	R 574	NRSA63J-181X	MG RESISTOR		
	R 575	NRSA63J-181X	MG RESISTOR		
	R 576	NRSA63J-181X	MG RESISTOR		
	R 577	NRSA63J-181X	MG RESISTOR		
	R 578	NRSA63J-181X	MG RESISTOR		
	R 579	NRSA63J-181X	MG RESISTOR		
	R 580	NRSA63J-181X	MG RESISTOR		
	R 581	NRSA63J-101X	MG RESISTOR		
	R 582	NRSA63J-181X	MG RESISTOR		
	R 586	NRVA63D-122X	MG RESISTOR		
	R 587	NRVA63D-122X	MG RESISTOR		
	R 588	NRVA63D-102X	CMF RESISTOR		
	R 589	NRVA63D-102X	CMF RESISTOR		
	X 301	NAX0375-001X	CRYSTAL	16.9344MHZ	
	X 401	NAX0331-001X	C RESONATOR		

■ **Electrical parts list (Relay board)** **Block No. 04**

⚠	Item	Parts number	Parts name	Remarks	Area
	C 13	NCS31HJ-101X	C CAPACITOR		
	CN 10	QGF0501F4-40X	FFC/FPC CONNE	FOR MAIN	
	CN 12	QGF1012F1-30X	FPC CONNE	FOR P.U	
	IC 1	GP2S60B-X	IC(PHOTO COUPLE		
	K 10	NQR0265-003X	FERRITE BEADS		
	K 11	NQR0265-003X	FERRITE BEADS		
	K 12	NQR0265-003X	FERRITE BEADS		
	K 13	NQR0265-003X	FERRITE BEADS		
	K 14	NQR0265-003X	FERRITE BEADS		
	K 15	NQR0265-003X	FERRITE BEADS		
	K 16	NQR0265-003X	FERRITE BEADS		
	K 17	NQR0265-003X	FERRITE BEADS		
	K 18	NQR0265-003X	FERRITE BEADS		
	R 10	NRSA63J-391X	MG RESISTOR		
	R 11	NRSA63J-910X	MG RESISTOR		
	R 12	NRSA63J-911X	MG RESISTOR		
	S 10	QSW0620-001	SWITCH	REST SWITCH	
	S 11	NSW0127-001X	SLIDE SWITCH	SHORT SWITCH	

Packing materials and accessories parts list

Block No. M 4 M M
Block No. M 5 M M



■ Packing parts list

Block No. M4MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	P 1	LV20708-010A	PACKING CASE	1	XV-521BK	
		LV20710-001A	PACKING CASE	1	XV-421BK	
		LV20709-002A	PACKING CASE	1	XV-525BK	
		LV20711-011A	PACKING CASE	1	XV-523GD	
	P 2	LV20699-001A	CUSHION(F)	1		
	P 3	LV20700-001A	CUSHION(R)	1		
	P 4	QPC06506515P	POLY BAG	1	FOR SET	
	P 5	QPC02504015P	POLY BAG	1	FOR ACC,INST	

■ Accessories list

Block No. M5MM

⚠	Item	Parts number	Parts name	Q'ty	Description	Area
	A 1	LVT0435-001B	INST.BOOK	1	ENG	J
		LVT0435-002A	INST.BOOK	1	ENG	C
⚠	A 2	QMPE090-183-JD	POWER CORD	1		
	A 3	BT-51020-2	REGIST CARD	1		J
	A 4	YU20333	SAFETY INST.	1		J
	A 5	PEAC0359-120	AV CORD 3P	1	AV CORD	
	A 6	QAM0005-002	S-VIDEO CORD	1	S-VIDEO	
	A 7	EWP805-014	1P PLUG CORD	1	XV-525BK/521BK/523GD	
	A 8	RM-SXV521J	W.LESS REMOCON	1	XV-521BK/421BK	
		RM-SXV523J	W.LESS REMOCON	1	XV-523GD	
		RM-SXV525J	W.LESS REMOCON	1	XV-525BK	
	A 9	----------	BATTERY	1	FOR REMOCON	
	A 10	BT-52004-1	WARRANTY CARD	1		C
	A 11	BT-20071B	SERVICE NETWORK	1		C